The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLV. CHICAGO, ILLINOIS, DECEMBER 2, 1905. No. 23.

Original Articles

THE SECRET NOSTRUM EVIL.

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CHICAGO.

I shall make no apology for bringing this subject before this Section. Its importance to the profession of medicine and to the public justifies an exposition of the evil now. In no other country has this menace to the welfare of the people and to the best interests of scientific medicine developed as it has with us.

Probably the reason is that other countries, with one or two exceptions, protect the people against frauds in foods, medicines, etc.

Some day it is to be hoped that the Congress of the United States will enact a national pure food law which shall include the regulation of the copyrighting and exploitation of proprietary and other medicines.

Just here it will be well to say that the term "proprietary medicine" does not necessarily stamp a preparation or remedy as a nostrum. Webster says that a nostrum is "a medicine, the ingredients of which are kept secret for the purpose of restricting the profits of sale to the inventor or proprietor; a quack medicine." Some proprietary medicines are patented, or better, the process of manufacturing an article is patented. This patent protects the discoverer, or owner, in the manufacture of the medicine or drug for a period of 17 years. These preparations are ethical, in that they are not secret, for any one for a small fee may obtain from the patent office of the government a copy of the description of the process of manufacture and the actual chemical composition of any such patented drug or remedy. The chief harm which has come to us in America from the protection by patent of the process of making a chemical or drug has been the resulting high price of the product. Many of the synthetic chemical drugs, like antipyrin, phenacetin, etc., cost ten times their worth as compared with the price of the same drugs in Germany and in other countries. As stated, however, such really patented preparations are not secret; the composition is known. Some of them are of value therapeutically. Many of them are valueless. Some of them are harmful. Most of them we could easily get on without and fare better with the older, more simple remedies. Too many "made in Germany" specifics are shoved under our noses.

Now, as to the other proprietary medicines. All the so-called "patent medicines" put on the market for the public, and many of the preparations exploited to physicians and distributed by them to the public, are not patented, but are protected by a copyright or trade mark. Technically there is no difference between the secret proprietary medicines manufactured for physicians' use and the "patent medicines" exploited to the public. Both are protected by a copyright or trade mark name. Both are protected for an indefinite time. They are mixtures, as a rule, of several ingredients.

The relation of the physician to these preparations, however, is very different. Those "patent medicines" which are advertised to the public are not considered ethical and physicians abhor them and rightly condemn their use because they are often dangerous and always irrational as remedies. On the other hand, the manufacturers of those copyrighted proprietary medicines which are exploited to physicians by extravagant claims of specific therapeutic action, use the doctor as the middle man to distribute the cure-alls to the public.

Medicines so prepared that the busy physician could easily dispense them found a certain class of doctors eager to use them. The indications for use appeared on the label or in the accompanying literature. Tonics, blood and tissue builders, emmenagogues, pain relievers, febrifuges, laxatives, calculi dissolvers, soporifics, bile promotors, heart tonics, cures for Bright's disease, etc., have appeared in countless number and some remedies offered are confidently presented as cures for not one, but a half dozen diseases or symptoms complex. Indeed, the claims of many of the promotors of this class of remedies do not differ in extravagance from the cure-all patent medicines offered directly to the public.

It has been easy to obtain testimonials of the alleged value of many of these remedies. Many even of the "faculty" have extolled them. Why, therefore, should not the less experienced physician use these "elegant," palatable, all-ready to use, with label-specifying-dose, disease-indicating remedies? Prominent physicians and the "faculty" had testimonials in the circulars sent with the samples indicating the virtues; why, therefore, use the simple proved remedies of the pharmacopeia, and especially as the latter would often necessitate the trouble of writing a real prescription.

To the rational physician most of the mixtures, even with the formulæ, are objectionable. Disease is never quite the same in different individuals, nor does the picture remain the same from day to day. The treatment must be modified to meet the varying problem of the morbid process. Rational therapy calls for simple prescriptions; but if there be an objection to mixtures with fixed and known formulæ, what must one say of mixtures of secret or semi-secret composition?

As Dr. Horatio C. Wood, Jr.[1] says:

> A much more elusive and therefore dangerous evil lurks in the class of mixtures which attempt to cloak their secrecy with a deceptive show of frankness. I think you will grant that the physician is rarely justified in the use of remedies concerning which he has no knowledge, and I maintain that the publication by a drug firm, of whose integrity the physician is absolutely ignorant, of a professed list of ingredients of some mixture is not sufficient knowledge to pardon

* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. "Proprietary Therapeutics," The Journal A. M. A., June 10, 1905, p. 1836.

or to warrant the use of that remedy. In the first place, if the published formula be correct, it is not enough to know simply the composition of a mixture, the exact quantities must also be known; there is a vast difference between the effects of 1 grain and of 100 grains of opium. Moreover, there is no means of knowing that the formula is a true one, for many of these corporations do not hesitate to pervert the truth.

Many of the promotors of these preparations claim, as chemists or as pharmacists, to be the discoverers of the wonderful remedies and the alleged unusual knowledge of chemistry or of skill in pharmacy has enabled the discoverer to develop in a mixture heretofore unknown, therapeutic qualities. Truth to tell, however, it is known that the proprietors are not always the manufacturers of the preparations they exploit and distribute. Many of the proprietary preparations are made by the large manufacturing pharmacists for the owners. Pharmaceutic skill is doubtless used in these instances, but it is the kind of skill which is for sale and is not personal.

I am informed that it is not unusual for one manufacturer of proprietary mixtures to have several so-called "companies," through which he can more easily exploit and distribute his products.

There is said to be a direct relation between the Dad Chemical Co., the Od Chemical Co., the Sultan Drug Co., the Rio Chemical Co., and the Peacock Chemical Co., or at least that they are linked together through one individual, and that Battle & Co. and the Lambert Pharmacal Co. are related to the above list. It is said, too, that the Vass Chemical Co., the Lotos Chemical Co., and the Valley Chemical Co. are one combination. Doubtless other combinations exist.

Curiosity recently prompted me to look through a number of medical journals and I can not resist the temptation to quote some of the preparations advertised in them: Aletris Cordial, Celerina, Neurilla, Respiton, Sanmetto, Cactina Pillets, Seng, Chionia, Thialion, Zarcol, Ecthol, Hagee's Cordial of Cod Liver Oil Compound, Mandragorine Tablets, Rheumagon, Ponca Compound, Ammo-phenin, Chloro-Bromon, Anasarcin, Bronchiline, Zematol, Zymoticine, Sulphogen, Labordine, Satyria, Manola, Cacodol, Eusoma, Leprosen, Sulpho-Naphtol, Pas-Avena, Neurosine, Germiletum, Bonn's Passiflora Tablets, Dioviburnia, Tongaline, Lithiated Hydrangea, Melachol, Gonoseptone, Calicolo, Saliodin, and so on *ad infinitum*. These are only a few samples of what the physicians of the United States are asked to prescribe. But there are hundreds of secret preparations that are not advertised in medical journals, whose literature and samples come to us through the mails, etc. In the majority of cases, we do not know their contents, and in many instances an analysis shows that they are simply mixtures. Often a prescription written by a physician for a particular case is purloined, put up under a trade-name and exploited as a cure-all.

As an illustration see the official announcement of the Council on Pharmacy and Chemistry regarding certain nostrums that have been exploited as synthetic chemical preparations guaranteed to cure everything. I have no doubt that the majority of the physicians who have been prescribing phenalgin, antikamnia, sal-codeia (Bell), and ammonol were shocked when they found out that, according to the analyses, they had been giving a simple mixture of acetanilid, with bicarbonate or salicylate of sodium or carbonate of ammonium, with a little caffein in some instances. What physician will be foolish enough to use these preparations, when he can get the same of his druggist for at most one-tenth the cost, but especially what physician with a particle of medical knowledge would think of giving acetanilid if he knew it, in the majority of the conditions in which, according to the advertisers, these nostrums are indicated?

What physician would prescribe Gray's glycerin tonic, if he knew that its chief ingredients are gentian, dandelion, glycerin and sherry wine?[2] Could he not write a prescription as good and feel that he was his own judge of what constitutes a tonic?

Let me quote from THE JOURNAL A. M. A.[3] This, I am told, refers to an article advertised as a cod liver oil preparation—one of the tasteless kind, that has been investigated by a subcommittee of the Council:

> We have recently had occasion to open a package of a well-known "Tasteless Cod Liver Oil" preparation. The circular which was wrapped about the bottle was replete with interesting information, especially for the patient, who obtains the remedy in the original package, as prescribed by his physician. He finds in it a list of the diseases in which the preparation does wonders—they range from the dread consumption to cystitis and hemorrhage of the kidney. Most interesting to us, however, is the statement that this compound "contains all the necessary elements of nutrition." It is too bad to disturb this beautiful vision by the report of the chemist. This shows that the product is quite free from oil or proteids; the only nutrient ingredients are alcohol, sugar, and perhaps glycerin. But the claims of the manufacturers are probably correct, for it contains carbon, hydrogen, oxygen, and probably a trace of nitrogen—so does gunpowder.
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> Perhaps it will now be the turn of strychnin to be advertised as the ideal food. It seems superfluous to point out the moral of this tale.

It is not necessary to enter into a discussion as to whether we should ever prescribe secret proprietary medicines, for in the minds of intelligent men, even with only a smattering of medical knowledge, there can be but one answer. A physician who has a true appreciation of his responsibilities, who has even ordinary knowledge of the action of drugs, and the danger from their unintelligent use, would not think of prescribing for the sick, who have placed themselves under his care, a preparation about which he knows nothing except what the manufacturer, about whom he knows less, had told him. While there is no excuse for prescribing these medicines, too many unthinking physicians are influenced to do so by the claptrap designated "literature," which the exploiters publish about their preparations.

There is not a secret proprietary preparation that has any more value, from a pharmaceutical or therapeutic standpoint, than has the ordinary prescription of the average general practitioner. Stop advertising them and they would be forgotten, just as "patent medicines" pass away if they are not advertised. A review of 10 or 15 years will call to mind many concoctions which physicians were asked to prescribe, and which, according to the advertisements, performed wonders, but now are heard of no more. Their advertising literature stopped coming and the nostrum-prescribing doctor ceased to use them.

What is the cause of the nostrum evil? There are several.

1. Pharmacology and therapeutics are neglected relatively by many of our medical schools. Anatomy, phy-

2. "Each half ounce is stated to contain dilute phosphoric acid, 12 minims; gentian root, 10 grains; extract of taraxacum, 15 grains; glycerin, 80 minims; sherry wine, 80 minims; carminatives, q. s."—"Thesaurus of Proprietary Remedies," p. 148.

3. June 17, 1905, p. 1943.

siology, pathology, diagnosis, etc., are emphasized and too often the usefulness and limitations of drugs are neglected. Too frequently drug nihilism is taught. If the student were fully taught the physiologic action of drugs, the art of prescribing, preferably single remedies or in simple combination, using if he desires the pharmacopeial preparations prepared by reliable manufacturing pharmacists, and at the same time if he were taught when not to rely on drugs, but frankly to prescribe for his patient a course of hygienic measures which alone would accomplish all that would be required, he would not be the willing dupe of the nostrum vendor, as he now is.

2. The reputable manufacturing pharmacists deserve great credit for the improvement they have made in pharmaceutical products. They have afforded us official preparations in the form of pills, tablets, syrups, tinctures, extracts, etc., which are elegant in appearance, often palatable and usually potent.

For this advance in pharmacy, a distinct credit to our country, we owe them our thanks.

Unfortunately, many of them have not stopped at this point, but have manufactured their own special mixtures which are just as objectionable as the products of the special manufacturers. They, too, have been active with their agents in visiting physicians and in distributing "literature." This encourages drug-giving in specific mixtures for special symptoms, and is wrong. With one hand they do good work, with the other much evil is done.

3. The nostrum makers at first copied the methods of the reliable manufacturing chemists, in exploiting their products, but they have gone a step further and have reached a point where one may say that they have subsidized the medical press. I know I am on dangerous ground when I make this statement, but right here is the chief cause—and the remedy. How many of our so-called medical journals are subsidized by medicine manufacturers I do not know, but all physicians know as well as I that there are many, and I do not refer to the so-called house organs. I unhesitatingly affirm that one-half of the medical journals of the country would be out of existence if it were not for the nostrum advertisements. Under the circumstances, therefore, can we expect these journals to say anything? Need we be surprised that scarcely a journal published the official report regarding the acetanilid mixtures, when the preparations hit were the best paying advertisements in the country?

What is the remedy? Publicity. The enlightenment of the profession. The truth regarding not only what the preparations contain, but who makes them. Certainly no honest manufacturer will object to this last proposition, and no honest physician will put up with less than the former.

The Council on Pharmacy and Chemistry has been created to investigate the non-official preparations, to find out the truth about them, and to publish its findings. It is not necessary to repeat here the results of the work already done by this body. All physicians have read, or may read all about it. In my opinion there has been no movement undertaken by the American Medical Association that will be so far reaching as this one to rid us of the blight of the nostrum evil. For the first time, we see the possibility of the elimination of a part, at least, of this curse to American medicine. It is the first practical solution offered of a most difficult problem.

But—and I want to emphasize what I am about to say—the movement will have the most determined opposition that money can bring. Millions are being made annually by the nostrum manufacturers, and they will not sit idly by and see this wealth-producing business done away with if they can prevent it. It won't be an open fight, for their business will not stand publicity. They will have with them those so-called medical journals which are published solely in their interests.

This movement will have the sympathy of every thinking physician of the country, but sympathy does not win battles. In this fight those who are representing us should have all the support we can give. In society meetings especially we should aid in the propaganda by helping to enlighten and to interest those of our profession who have given the matter no thought. We should support those journals that represent us, and not tolerate in our offices those that we know to be subsidized and to represent their advertisers rather than their readers.

DISCUSSION.

DR. JOHN H. MUSSER, Philadelphia, said that the cordial reception of this paper indicated that the members of the Section are in full accord with the sentiments expressed by Dr. Billings. He said that the nostrum evil as defined by Dr. Billings stultifies the profession in many ways. First it robs the physician of that practice of nice discernment in the choice of remedies, of their indications and their doses, which is essential to the full development of therapeutic skill. A physician's chief asset is experience, but what experience of the value of a remedy can be acquired when it is used in the manner in which we are instructed to administer it by the audacious five-dollar-a-day peripatetic therapeutist? Second, it prevents a cultivation of the scientific therapeutic habit, for, if premises are wrong, how can conclusions be correct? The uncertain combinations in unknown proportions, of unreliable remedies, concocted by unscrupulous grafters, can not possibly form a true figure in a proposition. Consequently, no true conclusions are drawn, and, hence, scientific habits are very soon cast to the winds. Third, it engenders irresolution as to the value of remedies. They are given in a half-hearted manner, and consequently a minimum effect is produced. A physician who prescribes with a clear knowledge of the effect of a remedy gets a surer and more immediate response. Doubt causes inaction. Fourth, it destroys scientific habits. If a scientific habit is not employed in our work, we are not truthful in our action. This lack of the worship of truth in treatment soon engenders a want of exactness in diagnosis. In consequence, a slovenly habit of practice in general will follow. Fifth, the doubt of the value of drugs and of medical measures is soon transmitted to the laity. Is it any wonder, Dr. Musser asked, that all *isms* flourish when physicians can not support their own therapeutic actions by experience or by scientific induction? The fact that every three years, perhaps less, the whole type of nostrums changes shows that experience has not been garnered. Time alone enables physicians to gather knowledge which the nimble "nostrum-mer" or drug drummer would prefer us not to have. Sixth, the nostrum evil threatens the enlightened principles of modern medicine. Our great glory is in adhering to the line of conduct of the tenets of Hippocrates and of Sydenham. "Do good or do not harm." It is not the use of drugs, but it is management and measures that mark our later-day progress. By the nostrum tenets, polypharmacy is essential and excessive drugging is the rule, both contrary to modern medical practice. Seventh, the nostrum evil stultifies physicians, because it makes them dishonest. They can not be honest if they prescribe things of which they know little or nothing. Dr. Musser urged medical men to be true to themselves and to hearken to the warnings of the paper. Concluding, he said: "Let us lash with thongs of indignation those tempters who, with literature that is beyond all measure untruthful, unscientific and presumptuous, and with words of rank sophistry are surely entwining us in a python-like grasp that will strangle us, to feed their coffers."

DR. W. G. MOORE, St. Louis, heartily agreed with the statement that there is no subject of greater importance than that embodied in the paper just read. He presented to the Missouri State Medical Association a paper along the same lines and feels greatly re-enforced by Dr. Billing's paper. If there is any infamy blacker than this that confronts the medical profession, Dr. Moore does not know of it. Nothing can be a greater curse than this subsidizing of medical journals. When Dr. Billings was mentioning the various companies, Dr. Moore thought he had been living in St. Louis, but, instead, he is at the other end of the canal and the stench reached him up the river. There are medical journals published to-day that should be placed in the sewer. The best efforts of medical men are demanded, and physicians should not only refuse to support, but should despise such journals as publish advertisements of these secret nostrums. He said that he could not understand how any one could trust a patient to the care of a man who would consent to give something that the hired man had taught him to use. The laborer is worthy of his hire, and Dr. Moore respects his mission, but he can not honor his employer. In a recent issue of a prominent journal Dr. Moore saw this statement regarding the treatment of gastroenteritis: "Apply warm all over the abdomen; place a cotton compress over it and bind on antiphlogistin (blue mud), and you will have no further need of doctors or medicines."

DR. ALFRED STENGEL, Philadelphia, said that the nostrum evil is such an insidious one that the best informed may be taken in. As Dr. Billings has pointed out, these preparations are placed before physicians in such a way that, unless they have abundance of time to look into details, it is difficult to distinguish *bona fide* chemical preparations from untrustworthy mixtures. When the copy of THE JOURNAL containing the analysis of certain nostrums was issued, one of his colleagues asked Dr. Stengel if he knew that phenalgin was not a chemical combination. The physician in question was under the impression that it was and was greatly surprised to find that it was a mere mixture, subject to constant change and with no guarantee of its character. Dr. Stengel declared that it is important that the members of the Section on Practice of Medicine, as a body, should take a firm stand at this time. The remedy for many of the evils that affect the profession is in organized action. This association has a membership of 19,000; in addition to the members, from 14,000 to 15,000 other subscribers read THE JOURNAL; whatever attitude the members take officially and whatever point of view is supported in the editorial pages of THE JOURNAL will reach so large a number of readers that the association may confidently hope for a removal of such evils as it attempts to correct. Dr. Stengel said that he felt, therefore, that, as a Section, they should indorse the Board of Trustees in their appointment of a "committee" to investigate and to make public the character of various substances or compounds offered as medicines and that they should indorse all that Dr. Billings has said.

DR. JAMES J. WALSH, New York, seconded the resolution presented by Dr. Stengel. He stated that, while he is in accord with others in blaming the medical journals, he wished to call particular attention to the fact that it is the members of the medical profession themselves who are most to blame. He said that there is no use in physicians hiding their shame behind objections made against the management of the medical journals of the country. The manufacturers of secret nostrums find only too many customers for their wares, and even in medical centers, where physicians are supposed to be well educated, the evil of prescribing secret nostrums of various kinds is very widespread. Within a few years, it has been shown that in New York City about 70 per cent. of all the prescriptions written contain some proprietary medicine that ordinarily would be expected to fall under the ban of professional use. Dr. Walsh has made it his business to secure information regarding these preparations whenever he could. On a number of occasions, when the agent of a firm has brought some new and especially seductive nostrum, hitherto unheard of, but recommended as good for nearly every ill that flesh is heir to, and a few others besides, he has inquired of druggist friends as to whether the new remedy was being prescribed or not. In nearly every case, he found that, within a month after the new remedy was so persuasively introduced by the agent, some physicians were prescribing it in their practice. This emphasizes the necessity for making the physician realize that in doing this he is selling his birthright for the proverbial mess of pottage and not always getting the pottage.

DR. W. O. BRIDGES, Omaha, Neb., said that he feared that the resolution does not reach far enough. An appeal should be made to the individual physician, whether he be a member of this organization or outside it. Dr. Bridges believes that a large number of physicians unconsciously and unwittingly prescribe these secret nostrums against which we are making war to-day. He stated his belief, if physicians discontinued receiving the journals which advertise these preparations, more than one-third of them would go bankrupt. A friend of his, an editor and publisher of a metropolitan daily, recently told him that, since the expose of the secret remedies by the *Ladies' Home Journal*, his paper had suffered a loss in advertising income of one thousand dollars a month. Dr. Bridges declared that the profession is largely responsible for the conditions which exist. Dr. Moore has stated that a large number of these journals should be thrown into the sewer, and Dr. Bridges believes that still better results would be accomplished if physicians declined receiving them at all, that they might be returned to the offices from which they emanate.

DR. J. T. PRIESTLEY, Des Moines, Iowa, said that the graduates of the various institutions in this country have had neither the time nor the opportunity to learn to dispense their medicines, and in this they certainly are weak. He mentioned the case of a bright young man who told him that he had ordered so much calomel to be placed in so much water and a teaspoonful given so often. It must be remembered that at times a very affable gentleman comes along and shows something that appeals to these young and untrained men. Dr. Priestley believes that the fault is in the teaching. If the young men were taught how to prescribe drugs as well as to give them, there will be much less of this nostrum evil.

DR. JOHN A. WITHERSPOON, Nashville, Tenn., said that too little attention is given to the actual bedside teaching of the management of disease. Most young men leave college with an imperfect knowledge of the physiologic action of drugs and imperfectly prepared to make any therapeutic application to a case in hand. Dr. Witherspoon blames the man who has the proper instruction and who takes the responsibility on his shoulders of caring for a human life without a due sense of that responsibility, and who prescribes drugs at the dictation of the traveling man. The medical man who continuously and constantly keeps on prescribing such secret remedies becomes narrow and contracted in his ability to handle disease and becomes like the negro in Mississippi who was given a new safety razor to use. Shortly after, the donor saw him and asked him how he liked his new razor, and the answer came that it was good for shaving purposes, but for marriages, social functions and funerals it was perfectly useless. Now that is the position of the physician who continuously prescribes these quack nostrums; he will become perfectly useless in the practice of medicine. Many men who publish journals are not men who can be considered as molding public or professional opinion in medicine. Medical men should continue to fight them, and also should make it appear disreputable for any journal to publish these nostrums.

DR. JOSEPH M. KING, Los Angeles, Cal., declared that some men with a good knowledge of the physiologic action of drugs, will yet grasp at every will-o'-the-wisp, but one of our troubles is that the rank and file of the profession have not an exact knowledge of materia medica and therapeutics. In several of the large clinics in this country which Dr. King has visited, a great deal is taught regarding diagnosis, but he heard very little concerning treatment, and it would seem that clinics are being held to teach diagnosis only, and not for the purpose of teaching therapeutics also. Of course, no man can successfully treat a case until he can diagnose it, but the patient pays for the application of what the physician knows regarding remedies. It is important that the physician should have a thorough knowledge of the weapons at hand, and then he will not be so prone to run after false gods.

DR. A. B. GROSSE, San Francisco, Cal., said that the physicians of California are in full accord with the views expressed by Dr. Billings, or it might be said that Dr. Billings has practically expressed his sympathy with the work done by the

California *State Journal* under the able leadership of Dr. Jones. Dr. Grosse disagreed with some of the views expressed that the nostrum evil flourishes through the baneful influence of the subsidized medical press and the lack of therapeutic tuition in medical colleges. Just as long as the nostrum can be found in the advertising pages of respectable and standard medical journals, the root of the evil will not have been reached. He said that this is no time to mince words and we may as well admit the error of our ways. Even the official organ of the association, THE JOURNAL of the American Medical Association, has had its advertising pages polluted by the nostrum manufacturers, and this in the face of an organized fight against the evil by the California *State Medical Journal*. Dr. Grosse urges immediately remedying these abuses. He said: "Let us purge the advertising pages of THE JOURNAL so that our hands at least may be clean."

DR. THOMAS MCCLEAVE, Berkeley, Cal., stated that all physicians in California are greatly interested in this matter. He referred to the fact that several speakers had mentioned journals published especially to cater to this class of preparations, and said that THE JOURNAL of the American Medical Association is as great an offender as any. This crusade, he said, was started by Dr. Jones, editor of the *California State Journal of Medicine*, who called attention again and again to the advertising in the columns of THE JOURNAL of the American Medical Association and was villified for so doing. Dr. McCleave said that he should like to add to the resolution offered by Dr. Stengel or to make an amendment to the effect that the Trustees be requested immediately to remove from the advertising pages of THE JOURNAL of the American Medical Association the advertisements of these nostrums. He said that, under the stimulus of criticism, much of this objectionable matter had been removed from the pages of THE JOURNAL, but that some still remains.

DR. CHARLES G. STOCKTON, Buffalo, said that Dr. Billings' paper will do good because of the fact that he has mentioned names, and it is in this that courage is shown. If the names were more frequently mentioned, carefully but strongly, the profession would soon be educated as to what is right and what is wrong. Many in the profession are not of a way to learn what they should regarding these agents. Dr. Stockton said that he believed that the committee of the Association will help if names are mentioned, if a list of objectionable preparations is published regularly in THE JOURNAL.

DR. ALFRED STENGEL, Philadelphia, added the following to the resolution he offered:

> "*Resolved*, That the Board of Trustees be requested to effect the removal from the pages of THE JOURNAL of the American Medical Association of the advertisements of any nostrums."

He thinks that this resolution should be passed. Unfortunately, all the 200,000 doctors in the country have neither the time nor the facilities for looking into the composition of objectionable medicaments. It is desirable, therefore, that THE JOURNAL should contain no deceptive advertisements and that a list of desirable or undesirable remedies should be available to the profession.

DR. NORMAN BRIDGE, Pasadena, Cal., proposed an amendment that the Trustees be requested to remove the nostrum advertisements.

DR. R. H. CARTER, Victoria, Canada, said that, although he is not a member of this Association, he would like the Canadian Medical Association to be informed officially of what has been done. Physicians in Canada receive many secret nostrums and much advertising matter from time to time from all the different drug houses that Dr. Billings has mentioned.

The Physician's Duty.—It is not only a physician's duty to be a good doctor, but, if he will exercise the influence he ought, he should extend his culture and make himself an intelligent force—a force which, exercised through an organized body of medical men, is bound to make itself felt. While to know one's business may be the whole duty of the medical man, it is not the whole duty of the cultivated physician; not the whole duty to himself, or to the standing of his profession before the public.—Hurd, in *Buffalo Medical Journal*.

SYNCYTIOMA MALIGNUM.*

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IOWA CITY, IOWA.

DEFINITION.

In some of our latest works on pathology and gynecology we find this growth mentioned and thus defined:

Syncytioma malignum is a malignant neoplasm exhibiting the morbid physiologic characteristics of sarcoma and carcinoma.[1]

It is a degenerative malignant disease of the sarcomatous type originating in the decidual structures of the pregnant woman and tending to a rapidly fatal issue.[2]

It is a hemorrhagic tumor, a malignant growth developing in the body of the uterus, which belongs to the sarcoma group, and to a variety never before observed.[3]

It is derived from the syncytium, and the syncytium is the undifferentiated embryologic tissue, and the tumors derived from it are neither epithelial nor sarcomatous.[4]

It is a peculiar neoplasm of the uterus, peculiar in that it occurs only after pregnancy, in that its parenchyma is derived from two forms of cells, and, finally, in that its origin is in the fetal tissue and its development in the maternal organism.

I have found that but a comparatively few of the works recently published to be used as text-books in our medical colleges even mention this as a distinct neoplasm; this is a remarkable statement in view of the fact that there are now on record about two hundred cases of this tumor formation as differentiated from all other growths. Sänger began the record in 1888; Pfeiffer followed with a case in 1889; Sänger reported 12 cases in 1893; Bacon reported a collection of cases in May, 1895; Williams, 27 in August, 1895; Ladinski, 132 in April, 1902; Bandler, 150 in August, 1903; Teacher, 188 in August, 1904; since then I have noticed reports of the following cases: Metcalf and Swafford,[5] 1904, one; Wallert,[6] 1904, one; Krukenberg,[7] 1904, one; Bland,[8] 1905, one; total, 192.

There is no doubt that there have been other cases diagnosed, but not reported; and, again, other cases that have passed unrecognized because of the lack of facility to conduct properly examinations leading to a correct diagnosis.

NOMENCLATURE.

Those who reported these cases or who have contributed otherwise to our literature on this subject have used the nomenclature that seemed to them an exposition of their personal opinions as to the origin of this growth. Consequently, we have a confusion of terms, as carcinoma syncytial, malignant placentoma, sarcoma chorii, epithelioma serotinale, deciduoma malignum, deciduo-carcinomæ, sarcoma-deciduo-chorii-cellulare, chorioepithelioma, syncytioma malignum, etc.

The term syncytioma malignum is, in my opinion, the best designation for this particular neoplasm, in that it immediately fixes one's attention on the growth

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. Hektoen & Riesman: American Text-Book of Pathology, 1902.
2. Reed: Text-Book of Gynecology, 1901.
3. Cullen: Cancer of the Uterus, 1900.
4. McFarland: Amer. Jour. Obs., vol. xlix, 1904.
5. Metcalf & Safford: Amer. Jour. Obs., vol. l, 1905.
6. Wallart: Zeitschrift für. Geb. and Gyn., Stuttgart, vol. xliii.
7. Krukenberg: Diag. Mal. Chorionepith. Gyn., Stuttgart, vol. xliii.
8. Bland: THE JOURNAL A. M. A., vol. xliv, June 10, 1905.

with its distinctive features, and in that it shows without the possibility of a doubt its derivation and its location, the conditions under which it must exist, as well as its relation to its host.

DERIVATION AND HISTOLOGY.

According to Marchand's[9] theory, which is now generally accepted, this neoplasm is originally derived from the fetal ectoblast or trophoblast. Following the implantation of the fertilized ovum on the maternal endometrium, the trophoblast develops villi which penetrate the endometrium, reaching the maternal network of blood vessels from which the ovum is nourished. Covering these chorionic villi is found an epithelium consisting of two layers; the outer, the syncytium; the inner, Langhans' layer of cells, which Langhans considers mesodermal in origin, syncytium resulting when the blood comes in contact with fetal cells. This syncytium consists of protoplasmic masses which are the product of blood cells—the nuclei, being the changed trophoblastic nuclei. The derivation of these layers forming the covering of the chorionic villi is now the point on which those who have made the most exhaustive investigation along these lines disagree. Bandler,[10] who has studied the subject of placentation in the lower animals, concludes thus: "Clear in almost every detail, a trophoblast formation, consisting of an inner layer of separated cells and an outer or plasmodial layer, such as is found in the placental development of animals, is present in the human placentation." Many noted authors across the waters contend that this chorionic epithelium is derived from the deciduæ; consequently, that this growth is of maternal origin. Some authors have urged the opinion that the layer of Langhans disappears during pregnancy and that the outer layer remains. However much diversity of opinion there may be as to origin of these two layers covering the chorionic villi, it is universally agreed that this neoplasm takes its origin in these layers, and demonstrations have been made which leave no doubt that the protoplasmic masses found in this growth originate in the syncytium and that its individual cells are identical with those of Langhans' layer.

DEVELOPMENT.

This neoplasm is usually one of rapid development, running its course in a few days or weeks, although it may remain in a latent or quiescent condition for months after impregnation. I want to emphasize the fact that this malignant growth may develop during, as well as following, pregnancy.

In April, 1902, Ladinski[11] reported over a hundred cases showing that occurrence of syncytioma malignum or deciduoma malignum had taken place in from one week to twenty months after termination of pregnancy. In the same year Noble[12] reported a case examined microscopically by Dr. McFarland in which thirty months had elapsed between the last puerperium and the extirpation of the uterus for this neoplasm. In this case twenty months had elapsed before the first symptoms had manifested themselves.

In 132 cases collected by Ladinski[11] the average lapse of time was eight weeks after mole pregnancy; seven weeks after abortion, and five weeks after labor at term.

Dorland,[13] in a report in a series of cases of this disease, says: "Fifty-nine and six-tenths per cent. manifested symptoms either during labor or within four weeks of that time; in 78 per cent. death occurred six months from the appearance of the symptoms.

LOCATION.

The usual location for this neoplasm is on the inner surface of the uterine wall, at the placental site; it may extend outward from the endometrial[14] surface or it may be intramural.

MICROSCOPIC APPEARANCE.

This growth occurs single or multiple, and it may be nodular or pedunculated. In size it is variable; it may be a small tumor or one filling the entire cavity of the uterus; in one instance, the weight is recorded at seven and one-half pounds;[15] in its earlier history it is a somewhat firm mass of a pinkish-gray color, which later on becomes infiltrated by blood or dotted with circumscribed hemorrhagic areas, changes to a soft fragile mass, usually sharply defined from the muscularis. It is prone to ulcerative processes, and it may become enucleated and escape from the uterine cavity in the lochial discharge.

MICROSCOPIC APPEARANCE.

Some authors have asserted that a greater part of this tumor is made up of degenerated muscle cells; others oppose this, claiming that the cells formed in the muscles are in reality choriomatous cells which have invaded the muscularis by the process of infiltration. In a microscopic examination of this growth protoplasmic masses are found, which, because of their arrangement, sometimes assume a striated appearance; then, again, they simply form irregular masses; these masses are homogeneous and contain nuclei which readily imbibe stain, while here and there throughout these masses are found vacuoles, some of which are found to contain blood cells; these constitute the syncytium.

Aside from this structure are found cells with boundaries well marked, and distinct muscular division, all together forming an atypical representation of normal placental tissue. Another element sometimes present in this formation is the chorionic villi; Reed claiming that these may be found entire, but marked by aplastic features. The proportion of these elements may vary in different stages or in different parts of the same neoplasm; so, also, may different degrees of degeneration be found. Bland[8] claims that the tumors containing the chorionic villi do not have so great a tendency toward malignancy.

METASTASES AND SECONDARY GROWTH.

This tumor is one in which metastases occur quickly and early in the history of its formation; this is one of the most distinctive features of the syncytioma malignum.

When we study the subject of placentation, its normal activities resulting in the giving up of nourishment from the maternal circulation for the vital processes in the fetus, we do not wonder at this property of metastasis, carried on by means of these same maternal blood vessels from these same elements or tissues; which tissues, instead of carrying out Nature's design to make the pregnant as well as the parturient condition a phy-

9. Marchand: Monat. of Gebart. Gyn., vol. i, 1895.
10. Bandler: The Trophoblast and Chor. Epith. Am. Jour. Obs., vol. xlvi.
11. Ladinski: Am. Jour. Obs., vol. xlvi, 1902.
12. Noble: Am. Jour. Obs., vol. xlvi, 1902.
13. Dorland: Statistics, Mal. Decid. Univ. Med. Mag., vol. xiv, 1897.
14. Theilhaber: Archiv. of Gynäk., 1894, vol. xiv, p. 56.
15. Croom. Med. Press and Chir., June 25, 1902.

siologic one, have by some means been thwarted in the performance of their legitimate work. Metastasis takes place almost entirely through the blood vessels. Gebhard and Menge[16] reported cases in which the lymph channels transmitted the material forming the secondary growth. This may have taken place in the later stages. The site for the formation of these secondary growths may be in any tissue, however remote, as well as in tissues adjacent to the primary location. The secondary formation may be the first manifestation of the disease, and it may equal or exceed the primary tumor in size. In gross appearance, as well as in histologic features, it is identical with the original growth. Of 52 cases reported by Dorland, the secondary growths were found in 70.76 per cent. Relative frequency of occurrence in the various organs he computed as follows: In lungs, 78.37 per cent.; vagina, 54; spleen, 13.5; ovary, 13.5; kidney, 13.5; liver, 10.8; broad lig., 10.8; pelvis, 10.8; brain, 5.4.

DIAGNOSIS.

The prime factor in the diagnosis of this disease is that it is a tumor formation dependent for its origin on impregnation. It has been shown that it may occur after delivery at full term, abortion, or hydatid mole pregnancy. The first symptom usually manifesting itself is hemorrhage that will not yield to any usual methods for relief. A hydatid mole formation may be found in the uterus; this may be a guide to a correct diagnosis. Findlay,[17] in his clinical deductions from 210 reported cases of hydatidiform, found that in 25 per cent. of mortality, of these 210 cases, syncytioma malignum claimed 16 per cent.; other statistics show that 50 per cent. of all cases of syncytioma malignum follow hydatidiform mole. Following the hemorrhagic discharge, there may be a foul watery discharge, as the necrotic conditions take place; pain may be present, later referred to the pelvis; headache not localized, cachexia, anemia.

On examination, the uterus may be found enlarged and soft with os patulous, on manipulation, tumor may be localized; a specimen should always be subjected to an examination under a microscope. In themselves the clinical symptoms are not pathognomonic, but in combination with history of patient, her age, her previous parturitions, confirmed, as a rule, beyond doubt by the microscopic examination of the specimens obtained, the diagnosis should be correctly made.

COMPARATIVE DIAGNOSIS.

All modern writers who have thoroughly studied the different phases of this growth, and who now consequently recognize the distinctive morphologic and pathologic features, do not hesitate to call it an intensely malignant neoplasm, and to place it in the list with other malignant tumors of the uterus. Reed classifies malignant neoplasm of the uterus thus: 1. Syncytioma malignum; 2, adenoma uteri; 3, sarcoma uteri; 4, carcinoma uteri; 5, exceptional cases.

In making a diagnosis, these four neoplasms must be considered, as well as remnants of abortion; the main distinctive features may be tabulated thus:

Adenoma Uteri.

1. Malignant degeneration of gland structure.
2. Long duration.
3. Least active, less pain, less hemorrhage.
4. Papillomatous growth or growths.

Sarcoma Uteri.

1. Developed from embryonic connective tissue.
2. Has no arrangement of cells.
3. Has intercellular reticulum.
4. Blood vessels are abundant, thin walled, and lie between cells.
5. Metastasis by blood vessels.
6. Peculiar to young in life, before age of 35 years.
7. Slight tendency to ulcerate.

Cascinoma Uteri.

1. Developed from epithelial cells.
2. Cells arranged in alveoli.
3. No intercellular tissue, same being arranged about groups of cells.
4. Blood vessels not abundant, and lie in the stroma, not between the cells.
5. Metastasis by lymph channels.
6. Occurs generally in middle and advanced life, after 35 years.
7. Great tendency to ulceration.

Remnants of Abortions.

1. Shaggy appearance due to composition of slender threads.
2. Not friable.
3. Placental cells with nuclei, always present, isolated by wide zone of protoplasm.

Syncytioma.

1. Dependent on pregnancy.
2. Fifty per cent. of all cases follow hydatidiform mole.
3. Average age, 33 years.
4. Developed from chorionic epithelium.
5. Disease of child-bearing period.

COMPARATIVE MALIGNANCY.

In comparing this neoplasm of the uterus with other malignant new growths of the same locality, we claim that it outranks all others in the degree of the severity of the malignant manifestations, because of its unheralded attack on the part of the human organism that has but a short time previous been called on to perform a function that has no parallel among all of the many and varied functions of our economy; because of its presence made known only when it is already well developed; because of its early proneness to rapid metastases; because of its great danger dependent on the site selected by these secondary growths; because of its short history; because of its almost certain tendency to fatality from exhaustion, hemorrhage, sepsis, etc.

REPORT OF CASE.

Patient.—Mrs. A., aged 31 years; primipara, married two years, family history negative. Husband has syphilis in tertiary stage.

History.—Low vitality, sedentary habits; chronic constipation, menses regular, but scant, never painful, but accompanied by intense malaise. The first six months of gestation were uneventful. During the seventh and eighth months there was persistent headache, which at times became unbearable, patient relying for its relief on household remedies and headache powders obtained at drug stores, never at any time consulting a physician. At the end of the eighth month of gestation I was called and found the patient in labor, with os dilating slowly; labor continued thirty-six hours; pains far apart, anemic and manifesting hysteria throughout the period; no other marked clinical symptomatology except dilatation of both pupils. At the end of thirty-four hours I made a forceps delivery which was accomplished in thirty minutes with no outward effect on the patient; child still-born, small and poorly nourished. While inserting one blade of the for-

16. Menge: Ueber Decidue Sarcoma Uteri, Zeitschrift für Geb. and Gyn., xxx.
17. Findlay: Hydatidiform Mole, Trans. Gyn. Soc., Chicago, 1903.

cops I came in contact with a nodular mass, some four inches in length or diameter, on the inner uterine surface, quickly removing a portion I placed it in alcohol to examine later. In thirty minutes placental delivery was finished; hemorrhage profuse; thin with disagreeable odor. I remained with patient four hours because of her exhaustion. On my return thirty hours later I found the patient exhausted, pupils in same condition of dilatation, lochia foul. A sudden severe attack of tonsillitis kept me confined to the house for ten days; consequently, the subsequent history could not be followed by me. Patient died, evidently from exhaustion, three days after delivery. I subjected the section of enucleated portion of suspected tissue to a microscopic examination, using the Mallory and Wright technic, the clinical history of the case leading me to suspect neoplasm dependent on pregnancy. I could not detect villi in sections examined, but recognized cloudy masses without cell walls containing two or more nuclei, which readily imbibed stains, in combination with clearly defined cells in different stages of proliferation or degeneration; cells of varied size with karyokinesis manifested; blood cells were present, as were also hemorrhagic spaces. The diagnosis was syncytioma malignum.

The peculiarities of the case were that the tumor formed preceding delivery of fetus, the persistent severe headache, the well-marked dilatation of pupils showing possibility of metastasis into brain tissue.

Davis and Harris[18] reported a case of this neoplasm in a multipara two months after parturition with severe unlocalized headache as the one prominent symptom; at the autopsy, syncytial tumors were found in the brain, lungs, kidneys and liver.

Dean, professor of ophthalmology in the Iowa State University, states that a frequent result of brain tumor is dilation of the pupils with slow reaction to light; frequently the pupils are unequal. A choked disc should also be present. A tumor in any part of the brain may produce this condition, but those of the cerebellum most usually are the cause.

There are instances recorded in which hydatidiform mole formation and pregnancy have existed in the uterus simultaneously with delivery of a healthy child at term.[19]

Depaul remarked: "All the world knows that the celebrated Beclard was the result of a hydatidiform pregnancy." He urges the possibility of a viable child being born as a reason for abstaining from active interference.

Carcinoma and pregnancy may coexist in the uterus. I will briefly refer to Cohnstein's[20] 134 cases prior to 1873, Theilhaber's[14] 165 cases from 1873 to 1893, while Noble[21] has found 165 cases recorded since 1886. Further, 61 per cent. of Cohnstein's cases went to term; in 36 per cent. of them the child was born alive, while in 47.2 per cent. of Theilhaber's cases the child was born viable.

Polano[22] claims that the tumor malignant epithelioma follows or may coexist with hydatidiform mole.

I claim that malignant epithelioma or syncytioma may coexist with pregnancy.

CONCLUSIONS.

"It is the accumulation of our experiences that makes our empirical knowledge at last a fact."—Munday.

In my case just reported, could the syphilis of the father have had anything to do with the formation of this malignant neoplasm in the mother? We have abundant proof all about us of the unlimited influence that the fertilizing element may exert on the ovum; further researches in biology, physiology and chemistry may throw some light on this interesting study.

Again, the growth of these elements that make up this tumor depend on the maternal nourishment; if the maternal circulation is disturbed or impoverished by a constitutional disease, such as syphilis, could this not result without the syphilitic germ being manifested in the new growth?

The power of the maternal blood has been demonstrated in its action on the trophoblastic cells, changing them to syncytium; could not this maternal blood by a slight relative change in its own elements cause an undue proliferation and consequently a degeneration from lack of proper supply of blood in these very elements, and this cytolysis result in a neoplasm with the distinctive features of this one?

Fifty per cent. of the cases of hydatidiform mole are followed by syncytioma malignum. From this statement one would deduce the opinion that the same cause that produces the hydatidiform mole must necessarily be an etiologic feature in the production of syncytioma malignum. There have been many and varied opinions recorded as to the etiology of hydatidiform mole, but as yet none have proved satisfactory.

In the evolution of theories which have been recorded from time to time as to the real nature of hydatidiform mole, beginning with that of Hippocrates that it was thickened sperm; later Litre's view that it was due to the hypertrophy of the Nabothian glands and down to the view promulgated by Virchow[23] that it was due to a myxomatous degeneration of the chorionic villi, we have reached the conclusion held by Marchand[24] and the most generally accepted at the present, viz.: hydatidiform mole is due to a proliferation of the syncytium and of Langhans' layer, accompanied by a dropsical condition of the chorionic villi.

Findlay[25] claims that this condition results from a disturbed maternal circulation causing these elements to penetrate more deeply into the decidua where nutrition is adequate.

Bacon[26] continues thus: "The hydatidiform mole, which is very frequently found in these cases, predisposes to the growth of the tumor, deciduoma malignum, by diminishing the resistance of the uterine tissue to these elements." Could one not find cause for this in the continued vitiated blood supply of the syphilitic subject?

We hope for a speedy solution of the problem as to the causation of this neoplasm; a solution which in all probability will settle the question of etiology for other malignant growths of the uterus, as well.

We look to biology to focus its research on the cell processes and to differentiate between the normal and the pathologic changes taking place within the cell; the study of the cause of cell proliferation opens up another avenue full of hope; the greater our knowledge of cytomorphoses the clearer will be our understanding of cell proliferation. We look to chemistry to show the natural cell constituents and to differentiate between these and the products of the metamorphoses taking place in the neoplasm.

Cell growth is controlled by certain stimulating and inhibiting influences; knowledge of these may explain many of the now unknown phenomena, including the re-

18. Davis and Harris: Am. Jour., Obs., July, 1900.
19. Parvin: Science and Art of Obs., 1886.
20. Cohnstein: Arch. of Gynäk., 1873, vol. v. p. 3366.
21. Noble: Med. News, 1895, vol. xlviii.
22. Polano: Volkmann's Klinische Vortraege, No. 320.
23. Virchow: Virchow's Archives, 1903.
24. Marchand: Monatsch of Geb. and Gyn., 1895.
25. Findlay: Diag. Dis. Women, 1903, Lea Bros.
26. Bacon: Am. Jour. Obs., vol. xxxi, 1905.

trogressive metamorphoses that are attributed to the cels of this tumor.

DISCUSSION.

DR. W. O. HENRY, Omaha, said that hemorrhages following abortion or labor, and the rapid growth of the tumor and its early metastasis, should lead the physician to suspect that it is of malignant character. This is a particularly fatal disease and rapid in its course. Not much can be done in such cases unless the diagnosis is made in the very beginning and then a radical operation done. Dr. Henry disagreed with Dr. Branson that this disease might be a manifestation of syphilis; syphilis is, indeed, a terrible disease, but he believes that too many things are laid at its door. Whenever a physician is confronted by a condition which he can not explain he is apt to conclude that some member of the patient's family had syphilis as a primary cause of the trouble. This, Dr. Henry believes to be a serious mistake. Physicians should always seek for a scientific rather than ascribe so many of these obscure conditions to syphilis, simply because they can not be explained on other grounds.

A STUDY OF THE BONY PELVIS IN ONE HUNDRED AND FIFTY CASES.*

EFFA V. DAVIS, M.D.
CHICAGO.

In reviewing my work in pelvic measurements in the past five years, some general impressions were borne in on my mind relative to the frequent causes of deformities in the cases handled and the not infrequent difficulty encountered in the normal pelvis, which moved me to take some notes in regard to childhood, puberty, family and general habits, to verify, if possible, the impressions left by my daily work.

The cases in which sufficient notes have been taken to permit of an accurate report are those personally attended by me, though often assisted by medical students and internes, and are made up of private and dispensary cases in about equal numbers. Seventy-three have been attended in their homes and 77 in the hospital, 150 cases being considered.

In studying the pelvic measurements in this series of cases a diagonal conjugate of 11.5 cm. or over has been considered a normal pelvis. A pelvis has been considered generally contracted when all external measurements were diminished with the diagonal conjugate, 11.5 and less, and simple flat with a diagonal conjugate of 11 cm. and all external measurements normal.

Rachitic pelves were distinguished by the narrow conjugate and flaring brim, as shown by the decrease of distance between the crests and spines.

Over 82 per cent. of the cases (124) were normal in measurements, and somewhat over 17 per cent. (26) were deformed.

In classifying the deformities eighteen or 69.23 per cent., were generally contracted. Four, or 15.38 per cent., were simple flat and four rachitic.

In the deformed cases, 16, or 61.54 per cent., were normal deliveries, and 10, or 38.45 per cent., were operative. The operations included mid-forceps twice, high forceps twice, extraction twice, version and extraction three times and Cesarean section once. The indications for operation were the bony pelvis and malpositions.

Of the normal cases (124), 112 were delivered spontaneously, and 12, or 9.67 per cent., were operative.

Classifying the operative work in the normal cases, low forceps was applied once, mid-forceps six times, high forceps twice, extraction twice, version and extraction once. These operations were indicated by an oversized child four times, inertia with large child three times, toxemia once, eclampsia twice, transverse presentation once and breech once.

In comparing the size of the child at birth with the size of the pelvis—those born of normal cases averaged 7.94 pounds, and those from deformed cases 6.43 pounds—making an average of one and one-half pounds in favor of the normal pelvis. It is to be regretted that an accurate weight and height measurement was not kept of the mothers, but only a portion had been noted, not enough to carry out a correct report.

A study of 135 cases was made to determine the relation, if any, of the child's average weight at birth to occupation and diet in the mother during pregnancy.

Eighty-eight mothers were found inactive and abundantly well fed. The average weight of their infants at birth was 8.06 pounds.

Thirty-eight mothers were compelled to take active exercise, with plain but wholesome food, and the average weight at birth of their infants was 6.7 pounds. Nine mothers were ill with chronic diseases during pregnancy, and the average weight of their infants was 5.77 pounds. These cases were studied individually, and about half were attended in the hospital and about one-half in their own homes.

Many patients were kept in the hospital for several months before labor, but those that were charity charges were obliged to do active housework and they were considered as active patients on plain but wholesome diet.

It soon became noticeable that the active patients had short easy labors, with moderate weight in the child, while the inactive private patients that waited with us, and whose appetite was tempted by friends and relatives, often had the most tedious labors, with oversized children.

As we were so often met with reproachful surprise when a charity applicant was informed that she must work for her board, both she and her friends thinking because she was pregnant that it was cruelty to expect her to do active housework, we determined to study the matter more closely and began the notes which furnish these figures.

A temperature and pulse record, with observations as to excreta, is taken daily of all waiting and working patients, and a patient showing any evidence of toxemia is not permitted to work, but is placed in bed and diet restricted.

An abdominal supporter is advised in all cases of pendulous abdomen, but when there are no unusual symptoms the patients are encouraged to do an active day's work up to the time of delivery, and private patients are directed to walk two or three miles in the open air daily.

The nativity of the patients gives 105 American, or 70 per cent., and forty-five foreign born, or 30 per cent.

The deformed patients show twenty American and six foreign. A preponderance of the deformities were of the generally contracted type, of which there were twenty American and two foreign; simple flat, three American and two foreign; rachitic, two American and two foreign. The foreign cases were classified as follows: German, 10; Italian, 7; Irish, 7; Scandinavian, 7; Russian Jew, 6; Austrian, 5; English, 2; Dutch, 1. This gives 19 per cent. of American women with deformity and 13.33 per cent. of foreign. Though the number of

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

cases is rather limited for accuracy, this is evidence that European women may not have, as has so long been believed, a larger number of contractions than our own country women.

Some notes have been made as to education and attendance in school. All foreign-born women were illiterate (18) or of common-school education (27), not being in school after the twelfth or fourteenth year. Their menstrual period began as an average at the fourteenth year, and their deformities were divided equally between the three varieties. Of the 105 American-born women, twenty-five were of high-school, academy or college education. Seventy-five had a common-school education, being in school until the fourteenth or sixteenth year. Five were illiterate. Their first menstrual period average was at the fourteenth year.

In comparing the normal with the deformed cases, it could not be determined that application to school duties had anything to do with the growth and development of the bony pelvis; neither had such diseases of puberty, as chlorosis or chorea, malaria or other chronic wasting disease which attacked the body after the bones had once received a normal childhood start.

In looking for causes of pelvic deformity in this series of cases, the family history and childhood history was carefully noted.

Artificial and improper breast feeding is so commonly the cause of rickets that the four cases of rachitic pelvis were easily classified under that head.

The simple flat cases could not be assigned to any one cause, but occurred in cases where "delicate in childhood" was a common statement.

The parental history so far as obtained of all deformed cases was interesting, confirming the theory that contractions of the general type is a form of degeneracy.

The following is a list of the diseases mentioned as affecting one or both parents of the twenty-one patients out of twenty-six deformed: Inebriety, seven times; rheumatism, twice; heart and kidney disease, twice; tuberculosis, three times, and syphilis once. Two had a negative history and three were not noted.

CONCLUSIONS.

Deformity occurs often enough to make pelvimetry a practical part of the examination of pregnant women.

Generally contracted pelves form by far the most common deformity in American women, though the rachitic pelvis is often present in those who have been artificially or imperfectly breast fed in infancy.

Inebriety in the parents is the most constant element toward degenerate types in the deformities studied.

The size of the infant can be regulated by diet and exercise if carried out strictly for a proper time during the last three or four months of pregnancy.

SUMMARY OF NOTES.

Number of cases studied 150

Primipara, 76; multipara, 74; attended in hospital, 77; attended in homes, 73.
Normal pelvis 124, or 82.66 per cent.
Deformed pelvis, 26 or 17.35 per cent.
Generally contracted, 18, or 69.22 per cent.
Simple flat, 4, or 15.38 per cent.
Rachitic, 4, or 15.38 per cent.

NATIVITY.

American	105, 70 per cent.
Foreign	45, 30 per cent.

German	10	Russian Jew	6
Italian	7	Austrian	6
Irish	7	English	2
Scandinavian	7	Dutch	1

Nativity in deformed cases: American, 20; foreign, 6.
Generally contracted: American, 15; foreign, 2.
Simple flat: American, 3; foreign, 2.
Rachitic: American, 2; foreign, 2.

AVERAGE PELVIC MEASUREMENTS.

Number of cases 150

Spines	24.43	External conjugate	19.82
Crests	27.29	Diagonal conjugate	11.59
Trochanters	31.31		

Average in Normal Cases. Number of cases, 124.

Spines	24.70	Spines	23.10
Crests	27.55	Crests	26.00
Trochanters	31.63	Trochanters	29.7
External conjugate.....	20.26	External conjugate	17.7
Diagonal conjugate	12.29	Diagonal conjugate	10.9

Average in Deformed Cases. Number of cases, 26.

AVERAGE WEIGHT OF CHILD.

Normal pelvis, 7.94 pounds. Deformed pelvis, 6.43 pounds.

Weight compared with occupation and diet.

Mothers inactive and well fed: Number of cases, 88; average weight of child, 8.06 pounds.
Mothers compelled to active exercise, with plain food: Number of cases, 38; average weight of child, 6.7 pounds.
Mothers ill during pregnancy with chronic diseases: Number of cases, 9; average weight of child, 5.77 pounds.

CHARACTER OF LABORS.

In normal pelvis	124		
Normal deliveries	112		
Operative deliveries	12		
Low forceps	1	Extraction	2
Mid forceps	6	Version and ex.	1
High forceps	2		

Indications.

Large fetus	4	Eclampsia	2
Inertia and large fetus	3	Transverse presentation ...	2
Toxemia	1		

In deformed pelves	26		
Normal deliveries	16		
Operative deliveries	10		
Mid forceps	2	Version and ext.	3
High forceps	2	Cesarean section	1
Extraction	2		

Indication.

Pelvic contractions with malpositions and one case of eclampsia.

EDUCATION.

American, 105.		*Foreign (European)*, 45	
High school, academy or college	25	High school or college.....	6
Common school, in school until 14 or 16.....	75	Common school	27
Illiterate	5	Illiterate	18

FAMILY HISTORY OF DEFORMED CASES.

Number of cases	26
History not noted	3

Diseases of Parents.

Asthma	3	Heart and kidney	2
Inebriety	7	Tuberculosis	3
Neurotic	3	Syphilis	1
Rheumatic	2	Negative	2

100 State Street.

DISCUSSION.

DR. W. O. HENRY, Omaha, said that the number of cases is too small for accurate statistics. The report is instructive, however, because of the careful tabulation, and it is hoped that Dr. Davis and others will continue this work until the profession has a sufficiently large number of cases on which to base more reliable statistics.

DR. J. H. CARSTENS, Detroit, said that there was a time when physicians believed that deformed pelves were confined to the poorer classes, but more and more are developing in women of the better classes. Among the poor they are the result of bad environment and poor food, but among American women these factors usually do not prevail; hence some other factors are responsible.

DR. EFFA V. DAVIS said that perhaps too luxurious habits are permitted in pregnant women. In discussing the subject with Dr. Davis, many physicians have said that is impossible to do anything to limit the size of the child, but Dr. Davis thinks that this can be done. An infant that weighs ten pounds at birth is too large. Women who are active and careful in diet do not have such large babies, although they can have average well-nourished infants. Of course, once in a while a woman who has been well fed and idle is delivered of a small baby, and occasionally a poorly fed, hard-working woman will have a large child, but that is not the rule, and there may be other factors affecting the results in these apparent exceptions.

Meteorism in Pneumonia.—H. Schiller considers meteorism of considerable degree one of the worst prognostic symptoms in pneumonia. When it is distinct, he says, it indicates a severe and often deadly course.—*American Medicine.*

THE PSYCHOPATHIC MANIFESTATIONS OF THE NON-INSANE PSYCHONEUROSES.*

JOHN PUNTON, M.D.
KANSAS CITY, MO.

The active, enthusiastic investigation and widespread interest in the nature and character of the insanities deserves most cordial consideration and support.

Heretofore the study of psychiatry has been more or less divorced from practical clinical neurology, while to the average general medical practitioner it was almost a sealed book. The tendency of modern medical progress, however, is such as to bring psychiatry into closer relationship with general medical practice by furnishing the general practitioner with more accurate scientific knowledge concerning the clinical aspects of insanity and its allied neuroses.

At the recent meeting of the American Psychological Association, the scientific program beautifully illustrated the practical trend of psychiatry in America at the present time, for it is interesting to note that the burden of the themes presented by the leading alienists in their papers and discussions was intended to enforce at least three practical truths:

1. The great necessity for a more thorough knowledge of insanity by the general medical practitioner.

2. The marked and prompt curability of insanity in its incipiency.

3. The extreme susceptibility of insanity to prevention.

Moreover, another important fact was also not only recognized but duly emphasized, viz., that, while insanity is primarily a psychosis of the highest order, yet there are a number of morbid mental states which, while showing a marked kinship to insanity, are not usually so regarded by the general medical profession.

These include such conditions as neurasthenia, hysteria, hypochondria, certain forms of epilepsy, the precocious dementias, paranoia, melancholia, mania, manic-depressive insanity, and the toxic and exhaustion psychoses. Many of these morbid states follow acute fevers like typhoid, pneumonia, la grippe, and other infections, or become the sequelæ of alcoholism, syphilis and other poisons, all of which in their clinical syndrome may present varying degrees of delirium, confusion and stupor.

Such psychoneuroses, as a rule, however, first come under the observation of the family physician, who, unfortunately, often fails to recognize their true psychologic significance until the obsession, impulsion, or imperative concepts and other mental manifestations accompanying them become so conspicuous and striking that the opportunity for the patient's recovery is thereby greatly lessened.

The extreme relational importance of these various so-called nervous disorders with insanity, while having been referred to occasionally in medical literature and now duly accepted by us, are not so well understood by the general medical profession as their seriousness justly warrants.

The special object of this communication is to emphasize the close kinship which they sustain to the great psychoses by their progressive transitional nature illustrated by their psychopathic manifestations.

To the average general practitioner the diagnosis, prognosis and treatment of the various nervous diseases become at once the most formidable clinical problem with which he is confronted. It is not strange, therefore, that in the incipiency of the states referred to he should fail to recognize their true psychologic significance or properly to interpret their more serious, morbid, progressive, incurable tendencies.

To the family physician such morbid conditions as neurasthenia, hysteria, hypochondria, the precocious dementias, paranoia, melancholia, and allied states are often recognized and diagnosticated as purely neurotic disorders, and even when the mental symptoms are very pronounced he fails fully to appreciate their true psychopathic significance. Hence what was formerly, and even to-day, regarded by many as a pure neurosis is now known by us to constitute a true psychosis. In making this differentiation between the neuroses and psychoses, however, and thus defining their special pathologic significance, much depends on our use and understanding of the term insanity. Dr. Dewey has recently shown that, according to views now generally prevalent, "if there be a dividing line between the neuroses and psychoses, insanity exists on both sides of this line." Hence, nervous prostration and hysteria are often nothing more nor less than a polite misnomer for actual insanity. Recognizing, however, that in all such psychoneurotic states there is a marked admixture of rationality, and that even in many the intelligence may be far above the average standard so that when the term insanity is even hinted at in their connection, much less applied, it necessarily meets with a vigorous, and perhaps just objection.

This opposition also seems the more feasible when we remember that associated with the purely mental phenomena various somatic disorders and disturbances of the different mechanisms of the nervous system, more especially those of the visceral and sexual organs, are often present in all degrees of intensity. Moreover, these may account, to some extent at least, for the clinical symptom-grouping and therefore should also be duly considered in not only their nomenclature, but in any classified system of their nosology. It is not surprising, therefore, that the many attempts which have been made by different authors to furnish a term to express the pathologic condition underlying such states—the same to be in strict accord with scientific medical nosography—should fail to overcome the serious objections to such terms as hysteria, neurasthenia, phrenasthenia, and insanity, when applied to these psychoneurotic states, as such terms are not only inappropriate, but often misleading, and, therefore, subject to criticism, and even by some regarded as bitterly offensive.

The term "psychosomatasthenia," therefore, suggests itself to me as being essentially appropriate and applicable to all such morbid conditions. Like its many predecessors, it is subject to some objections as, for instance, its length, yet it has the redeeming virtue of indicating not only the seat, but also the nature and character of the malady, thereby encompassing the two most essential features in every diagnosis, while its general use would readily and satisfactorily overcome the many objections to those terms now in use which give offence.

While all such psychoneurotic states are attended with every degree of physical infirmity which are chiefly illustrated in disorders of nutrition, yet we contend that the various somatic changes are primarily and essentially the result of weakened inhibition or lack of nervous innervation due to some defect of perversion of the higher cerebral nerve centers, whether this disturbance is in response to their protracted functional activity or

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

the reverse of this, or to some hereditary effect or even toxic agent. Such morbid influence, however, in the early stages is undoubtedly capable of being readily repaired or adjusted by appropriate means, but if unduly prolonged without such treatment the lesion of necessity becomes more fixed and pronounced, and may even prove altogether irreparable in spite of all temporary expedients. The clinical study of the various psychopathic manifestations of the non-insane psychoneuroses and their special pathogenic significance, therefore, may be found most useful in aiding in their diagnosis, prognosis and treatment..

It is now a well-established scientific fact that neurasthenia, hysteria and allied states are simply the forerunners of actual insanity. Indeed, in the vast majority of instances such neurotic conditions constitute its earliest or incipient stage. Moreover, all authorities agree that incipient insanity is attended with physical and mental changes that are indicative of nervous exhaustion or nutritional defects which thus form its physical basis.

Increasing knowledge of the etiology and pathology of these psychoneuroses also emphasize the intimate relation existing between them besides endorsing the significant fact that insanity is but a different phase and further development of the same morbid process which underlies their protean clinical manifestations. Independently, therefore, of the purely physical phenomena that attend such morbid states, the psychopathic or mental symptoms demand our most earnest consideration, for on these hinge not only the diagnosis, but also the prognosis and treatment.

That the conditions of mental aberration comprised in these borderland and episodic states should present a wide range of symptoms of equally varying gravity is readily understood; hence we find them presenting every degree of seriousness in proportion as they involve the functions of the higher mental faculties. While the intelligence may not be materially implicated, yet there is in all such individuals a decided nervous weakness, or lack of inhibitory control which seriously mars the normal power of the will, weakens the judgment and intellect, and excites or depresses the emotional attributes. As the highest function of the nerve cell its power of inhibition or that energizing force which not only directs, but also restrains and controls the various mechanisms of the nervous system, it follows as a logical sequence that this supreme physiologic endowment by virtue of its late evolutionary development readily responds to the well known biologic law that those nerve centers which are the latest evolved are the least organized and consequently more vulnerable to all kinds of morbid influence.

Whatever, therefore, may be the cause of the various psychoneuroses, whether congenital or acquired, or due to hereditary defects, stress of all kinds or the result of some toxic agent, their first effect is seen in a lack of normal inhibitory control of the directing mental forces of the individual, which in turn produces nutritional changes that greatly weaken the various functions of the nervous mechanism.

With the higher inhibitory and controlling power impaired or abolished the instinctive inclinations also dominate and become highly exalted, varying with the peculiar idiosyncrasy of the individual. These are also attended with more or less headache, neuralgia, feelings of oppression, insomnia, unpleasant dreams, mental apathy, defects of memory, marked irritability, moroseness, and vacillating emotional apprehensive states, all of which are psychopathic manifestations of an unstable nervous organization.

"Blandford[11] has demonstrated that the most notable clinical psychologic feature observed as a result of lessened inhibition is an increased activity of the lower instincts or impulses normally held in check by the highest mental faculties. These, he claims, pertain chiefly to egoism or self-conscious emotional states, which owing to their lack of proper inhibition, are allowed to become unduly ascendant and even exalted.

Like all physiologic qualities, however, the normal power of self-control exists in every degree of strength and weakness in different persons. The same is true of the mental disposition or temperament and other sensibilities, all of which are modified and even largely controlled by the exercise of the will and judgment, while these faculties are again subject to the powerful influence of heredity, environment and education, together with other external conditions.

The psychopathic manifestations of psychosomatasthenia, therefore, consist in differing degrees of impairment of these higher psychical functions and are said by Regis to be fundamentally dependent on some lesion of the will. In their clinical aspects, however, they present every degree of exaggeration of the normal intellect, emotion, and will of the sufferer, thus comprising all forms of peculiarities, oddities, eccentricities, notional absurdities, obsessions of every kind, and even criminal tendencies, all of which at times are so cunningly concealed, or possibly even rationally defended, that their true nature and character are often overlooked, or their progressive, transitional, incurable, and even vicious, tendencies wholly disregarded.

Except in the most pronounced developments of these conditions, such persons are seldom found in our insane hospitals. They usually appeal for relief to the family physician, however, who is often at his wits' end to know how best to provide for his vacillating and even unruly nervous patient.

As a result of the weakened mental directive power due to lessened inhibition and consequent lowering of neuronic activity a general feeling of weakness or bodily illness is thus engendered, which attracts the attention of the patient to himself and forms the basis of morbid introspection with all degrees of apprehensive anxiety, suspicion and morbid fear. This again leads to the development of despondency, petulance, irritability, selfishness, impatience, hilarity, indecision, doubt, mental confusion, stupor and vacillating, impulsive conduct, all of which are marked features in the incipient or formative stage of insanity.

These psychopathic manifestations of the non-insane have been variously designated by the different authors as obsessions, besetments, imperative concepts, impulsions, and fixed ideas, all of which, however, consist of a general feeling of anxiety, doubt, or fear, which may lead later to impulsive acts like suicide and homicide.

As an aid to their diagnosis Regis has ably divided them into three classes, viz:

I. Those characterized by indecision of which all kinds of morbid doubts are typical.

II. Those characterized by all kinds of morbid fears constituting the various phobias.

III. Those characterized by morbid propensities or irresistible impulsive tendencies.

Each of these is again subdivided, for instance, Ball has divided the first class, or doubters, into five

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different classes, according to the nature of their predominating ideas, hence we have:

1. The metaphysicians, who are especially haunted by abstract questions of all kinds, such as doubts concerning Heaven, hell, the world, the Deity.

2. The realists who constantly revolve in their thoughts the lower and base details of objects, such, for example, as the conformation of the genital organs, copulation, etc.

3. The scrupulous, whose doubts pertain to forms of religion, such as accusing themselves of committing the unpardonable sin, or of some theft.

4. The timorous, who are fearful of committing some indelicate action by even allowing their clothing to come in contact with others, etc.

5. The counters, whose doubts are manifested under the form of irresistible enumeration. Such patients never get through counting different objects, such as the door knobs, the houses on the street, or their number.

The second class, or those suffering from morbid fears or phobias, is divided into three sub-divisions:

1. Those who have a morbid fear of all kinds of objects, its expression is extremely varied, and may involve such articles as glass, knives, pins, guns, thunder, flowers, besides certain kinds of food and drink.

2. Those who have a morbid fear of places, elements of diseases. Such patients are morbidly fearful of high places, bridges, streets, churches, theaters, rivers, besides a dread of all kinds of diseases, such as heart disease, liver disease, cancer.

3. Those who have a morbid or irresistible propensity to steal, lie, cheat, drink, blaspheme, set on fire, or abuse the sexual organs.

The third class, or those having irresistible impulsive tendencies are illustrated in such conditions as suicide, homicide, crime and other impulsive or reckless conduct.

In the simplest form, all these vagaries consist of certain ideas which obtrude themselves in varied and divers ways on the consciousness of the individual, and in a limited degree they are present in health; indeed, very few of us escape the presence of doubts, fears and impulses as isolated sudden thoughts, but which are readily restrained or controlled by the dominating power of inhibition. For instance, it is a common experience for persons looking from a height to be tempted to jump down, or in riding on a boat to throw themselves overboard; or when walking in the streets they are suddenly seized with a desire to count the houses or numbers on the doors, or in leaving the office habitually return for fear the safe was left unlocked, or the water running from the faucet, or the doors or windows unfastened. Such doubts, fears and impulses are usually readily restrained; when, however, from any cause they constantly and persistently recur and get beyond control of the will, they eventually dominate the thought, speech and conduct of the individual, thus becoming true psychopathic manifestations of the underlying pathogenic factor which essentially consists in some lesion of the will, and consequent impairment or actual loss of power of self-control. Moreover, there can be little doubt that certain crimes are often due to such morbid ideation which arise in the minds of persons who are not ordinarily regarded as insane, and yet who are wholly unable to resist such pathogenic impulses. Indeed, clinical observation and experience demonstrate the truth that the line of demarcation between "psychosomatasthenia" and insanity is at times as dimly drawn as that which exists between sanity and insanity, or health and disease.

In conclusion, it would seem important, therefore, that in our clinical study of the various psychopathic manifestations of the non-insane psychoneuroses that the essential thing after all is not only to recognize the foundation on which they are based, but also the contributing factors which generate, foster, sustain and develop them into their fullest maturity.

Thus considered, the following deductions would seem warrantable:

1. The psychoneuroses which constitute "psychosomatasthenia" are the forerunners of insanity, and the only difference between them is one of degree.

2. In fundamental nature they are the same, viz., a pathologic lack of inhibitory control of the higher mental directive forces with consequent nutritional cellular instinctive and physical defects, which seriously mar the power of the will, weaken the judgment and intellect, as well as excite or depress the emotional attributes in all degrees of intensity.

3. Their causes are similar, being both congenital and acquired, while heredity, stress, and toxicity are the chief factors of each.

4. Independent of the purely physical clinical phenomena the psychopathic manifestations dominate the syndrome, direct the prognosis, and most acutely solicitate treatment.

5. In their incipiency they are extremely amenable to curability, but when neglected the morbid ideation becomes fixed and persistent, thus defying all therapeutic efforts to give relief.

DISCUSSION.

Dr. H. A. Tomlinson, St. Peter, Minn., declared that Dr. Punton's effort to find some other term than insanity to describe mental perversion reminded him of a letter he once received from the mother of a patient, saying that the patient must be insane, after that it is simply a question of degree. It does not alter the nature of the mental disturbance to use another term, having the same meaning, to describe it. Dr. Tomlinson hopes that the time will come when the profession will frankly admit the fact of insanity and its significance, and that through the profession the public will be educated to recognize the existence of mental perversion as frankly as they do any other diseased condition. The difficulty is largely a social one and depends on the fact that, as the result of superstition and statutory provision, the word insanity suggests a stigma and gives the individual so afflicted a "subhuman" or quasi criminal status. Calling insanity nervous prostration or psycho-asthenia does not alter the condition or its nature, but it does lead to confusion and helps to keep up the medieval superstition with regard to its nature and significance. As a consequence, instead of being dealt with promptly and intelligently, it is hidden and improperly treated until it becomes chronic and is only recognized when the individual becomes a menace to himself or to the public.

Dr. Smith Ely Jelliffe, New York, said that he could not assent entirely to Dr. Tomlinson's point of view. He was reminded, while listening to Dr. Punton's paper, of his trip throughout Montana. The present study of the psychoneuroses has its analogies to the numerous prospectors' holes scattered throughout the state. Occasionally a deep shaft is found where a Brissaud, Charcot, Janet, Forel, or a Vogt has mined for useful truths, but the surface of pathologic psychology has barely been scratched. It is still in the prospecting stage. He thought it premature, therefore, to assume too much definite knowledge concerning the subject under discussion. He quoted Professor Cattell's remark that a 4-year-old child could exhibit more psychologic activities in an hour than a historian could record and analyze in a lifetime. It is folly, he said, to argue

concerning words. It is natural that the needs of language are such that new words are inevitable, but the facts for which the words stand are antecedent, and a prevalent fault of all is to ascribe too much of an entity to word symbols, forgetting that they are purely abstract representations. Insanity is not an entity; it has no relation to an entity. Psychoneuroses as a word means nothing. Insane patients have series of symptoms. These symptoms are capable of description, of analysis, of synthesis, etc., and individual cases may be grouped, and generalized ideas made therefrom, but the abstraction should be clearly separated from the realities, especially in speech. It is imperative, Dr. Jelliffe believes, to discard the old metaphysical categories of the mental faculties. They are not separate nor separated by dividing walls—will, emotions, memory, are not separate in the mind. The entire mental life is continuous. There may be some anatomic groupings of elements that render Wernicke's ideas concerning pathologic psychology comparatively sound, but the old terminology of metaphysical psychology still encrusts and encumbers the psychiatry of today to the discomfort of students. Dr. Jelliffe is not in favor of the complex word used by Dr. Punton, as it creates an air of definiteness about conditions which are extremely hazy and which, he thinks, are only beginning to be understood. The simple term, psychoneuroses, including neurasthenia, hysteria and states of mild psychical depression or exaltation, is a better one to use. He agreed with Dr. Punton that the word insanity carries with it a stigma which, if applied to patients who are suffering from the varieties of psychoneuroses mentioned, works a great injustice. To say to the world that a person who has a psychoneurosis is insane, although he may be sufficiently ill mentally to be treated as a pronounced case of mental imbalance, serves no useful object and is often an imprudence which brings about a complete mental breakdown, which the physician should try to avoid.

DR. H. T. PERSHING, Denver, Col., said that when a physician is asked to determine whether a patient is or is not insane he must first ascertain whether the mind is changed by disease or defective by reason of imperfect development. He must then find the degree of defect. . There are many mental defects which do not constitute insanity, but if the mind is so imperfectly developed that the individual is unfitted thereby for the ordinary relations of life then he is insane. Dr. Pershing thinks that if neurologists were to keep these two points in mind they would be saved a great deal of trouble, especially in medicolegal cases.

DR. J. H. MCBRIDE, Pasadena, Cal., said that if Dr. Punton intends to be understood as saying that hysteria always precedes insanity he should certainly differ from him. Hysteria may precede insanity, but there are many insane who are never hysterical. Not all emotional display in insanity can be called hysteria. There is certainly a prejudice against the person who is known to have been insane, and it must be admitted that there is some reason for it. In most cases of recovered insanity it is not difficult to see that the insanity has left a scar; there is some loss of mental vigor and balance. Insanity is not a highly recoverable disorder. Out of ten insane patients possibly two or three recover and stay well. There are many cases of insanity in which the disorder is due to causes that might be called incidental, acute infections, traumatisms, etc. In these cases hereditary tendency must play a very subordinate part. In the great majority of cases, however, the insanity is essentially due to conditions of brain structure that are inborn. These people have brains that are made of crumbly material that breaks down under adverse conditions of life, and in these individuals there is a very low rate of recovery.

Here the insanity is the final stage in a degenerative tendency that has been in operation for one or more generations. It is inevitable, therefore, that only a minority of cases of insanity should be curable. Nature is attempting to eliminate the unfit and, though she may adopt cruel methods and proceed in a bungling fashion and often fail, yet in the long run the object is accomplished.

The Physician's Holiday.—The reorganization of the medical profession makes it possible for one physician to leave his patients temporarily in the hands of another and fare forth into the world for a period of change and rest.—*Western Medical Review.*

INTESTINAL PERFORATION IN TYPHOID FEVER.

WITH REPORT OF CASES.

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In the general consideration of intestinal perforation in typhoid fever, it may not be amiss to compare it with appendicitis, relative to the surgical history of both. Without going into the earlier history of these pathologic conditions, it will be sufficient to consider them from the time they were prominently brought to the notice of the medical profession. The epoch-making contribution on appendicitis, by Fitz of Boston, appeared in 1886. What ought, equally, to have been the awakening call in regard to typhoid perforation was made by Leyden of Berlin, in 1884, and again in 1886 by Wilson of Philadelphia. What has happened meanwhile? An enthusiastic and glorious achievement for the surgery of appendicitis and only faltering and apathetic efforts in the direction of typhoid perforation; thousands of successful operations annually for the former, and, the world's record in 1904, 362 reported operations on the latter.

Why have we been so intensely active in regard to appendicitis and so hesitant concerning typhoid perforation, when such statisticians as Taylor and Brooks inform us that from 16,000 to 20,000 persons die annually in the United States alone from the latter cause? The answering explanation is not immediately obvious, particularly when we recall that the earlier consideration given to appendicitis was essentially for perforation, abscess and peritonitis. The difference is one of the anomalies of surgical progress.

Of all the explanations that might be advanced, the one that seems most reasonable is the poor results that followed early surgical efforts, in general peritonitis, from whatever cause, and the infrequent and fortuitous contact of the general practitioner with typhoid perforation.

The frequency of perforation in typhoid fever has been variously given by different authorities. Liebermeister found it in 26 of 2,000 cases (1.3 per cent.); Murchison in 48 of 1,580 cases (3.03 per cent.); Curschmann in 22 of 829 cases (2.7 per cent.); Armstrong (Montreal General Hospital) in 34 of 932 cases (3.66 per cent.). In my work it was present in 11 instances in 576 cases (1.9 per cent.).

Curschmann,[1] in his admirable work, says: "I believe that under the most unfavorable circumstances perforation occurs in not more than .3 per cent. of all cases of typhoid fever."

Children, it has been stated, are less liable to perforation than adults. My work offers no assistance on this point, since all the cases were in adults.

As regards sex, there seems to be but little difference, although perforation is said by some writers to occur more often in males. (As my own cases were almost wholly in the male sex, I have no basis for an opinion.)

Season seems to have but little influence. Curschmann states: "The frequency of perforation of the bowel, precisely like that of intestinal hemorrhage, may be extremely variable at different times." This I have particularly noticed in my own cases—the first 3 cases, of 11 perforations, occurred in the late months of 1890 and the early months of 1891; the last 3 cases have

1. "Typhoid Fever and Typhus Fever," edited by Osler,. Nothnagel's Encyclopedia.

occurred within the last six months—prior to March 15, 1905.

That perforation is more likely to occur in cases accompanied by diarrhea would seem to be indicated by the fact that in 30 cases of perforation at Johns Hopkins Hospital, 20 patients had diarrhea, 16 of them at the time of perforation. My 11 cases of perforation showed marked diarrheal tendencies in only 4.

The relationship of tympany to perforatio . does not seem to be very marked. When there is deep ulceration and accompanying tympany, perforation may be more readily brought about by mechanical causes, such as straining at stool, turning in bed, etc. Curschmann is inclined to believe that tympany is not so much a sign of severe intestinal lesions as it is a symptom of severe general infection, which gives rise to paralysis of the muscular layer of the intestine and consequent gaseous distension. My own experience tends strongly to confirm this view.

Hemorrhage in typhoid fever occurs in varying frequency, in anywhere from 4 to 8 per cent., in the larger collection of reported cases. In 829 cases at Johns Hopkins Hospital it occurred in 6 per cent. In my 576 cases it occurred in 43 (7.4 per cent.), counting all evacuations of blood sufficient in amount to be termed hemorrhage; it was the cause of death in 11 cases. The average number of hemorrhages per case was 3.3. The average number of hemorrhages to each patient who died was 5.1. Hemorrhage occurred in 3 of the 11 cases of perforation.

Like perforation, I have found hemorrhage to vary considerably at different times, but with no well-marked relationship between the two. In my hemorrhagic cases the intestinal loss of blood occurred in nearly all during the primary attack of the fever, and seldom during a relapse.

In dealing with the subject of intestinal perforation, Keen[2] summarized the 83 operative cases that had been reported. The result showed 19.36 per cent. of cures and 80.64 per cent. of deaths. The first three operations ever performed for typhoid perforation were by Mikulicz, Kussmaul and Bontecou, in the order named.

Finney[3] gives a brief history of the 112 operative cases he was able to collect. Of these 23 patients recovered (20.05 per cent.).

Harte and Ashurst[4] summarize the 362 operative cases that they collected with the following results: Recovered, 94 patients (25.97 per cent.); died, 268 (mortality, 74.03 per cent.). Their analysis by lustrums gave:

1884-1888,	10 cases,	mortality 90 per cent.
1889-1893,	16 cases,	mortality 87.5 per cent.
1894-1898,	100 cases,	mortality 72 per cent.
1899-1903,	166 cases,	mortality 69.2 per cent.

This readily gives an idea of the progress in operative work.

Of my 11 perforation cases, 5 patients were operated on, with one recovery and four deaths—recovery, 20 per cent.; mortality, 80 per cent. All the patients not operated on died.

The status of perforations not operated on does not seem to change. Various writers place the mortality in these cases at 95 per cent., and this opinion is confirmed by Curschmann.

One can not comprehensively discuss the subject of intestinal perforation of typhoid apart from typhoid fever itself. A long list of cases from any institution, or practitioner's records, when carefully studied, can scarcely fail to be of value. The accurate and painstaking work on typhoid fever, performed under Osler, at Johns Hopkins Hospital, throughout a number of years, has been of incalculable benefit in the study of every feature of the disease. Similar work elsewhere, of course, is entitled to its proper share of credit.

Simply to review cases of perforation, I believe, would not be of the same value as if all typhoid cases were given, even brief, consideration. This report is intended to cover a period of fifteen years, from March 15, 1890, to March 15, 1905. The work was all performed within the Northern Pacific Railway Hospital, at Brainerd, and does not include cases among our employes and others treated at their homes. There is a peculiarity about the work that does not often exist outside of railway hospitals, and that is the extent of territory which the work covers. The patients came from along the railway lines in Minnesota, Northern Wisconsin, Manitoba, North Dakota, and as far west as the middle of Montana.

In view of the fact that more than 90 per cent. of the patients came from al road, frequently with little or no previous observation or treatment, often in the second week of the disease, sometimes in the third, with mental hebetude, and occasionally delirium, already established, it will be appreciated how difficult it is to be exact concerning early clinical features in many of these cases.

During the fifteen years (1890-1905) we admitted and treated 576 patients with typhoid fever. Of these 534 recovered (92.7 per cent.), and 42 died (a mortality rate of 7.3 per cent.). The causes of death were as follows: Toxemia, with severe nervous manifestations, 12 (28.5 per cent. of the total mortality); hemorrhage, 11 (25.9 per cent. of the total mortality); intestinal perforation, 10 (28.8 per cent. of the total mortality); pulmonary complications, 5 (11.9 per cent. of the total mortality); acute heart failure, with sudden death, 4 (9.5 per cent. of the total mortality).

Exactly 75 per cent. of the 576 patients were admitted during the last six months of the year, from July 1 to December 31; the remaining 25 per cent. were admitted from January 1 to June 30, while over one-third (35.76 per cent.) of the total cases were admitted during the months of September and October.

In this series of 576 cases, 291 patients, over 50 per cent., were admitted and treated during the last five years, during which time there was a total of 16 deaths, from all causes, or a mortality rate of 5.5 per cent.

The total mortality rate in 829 cases of typhoid fever treated at Johns Hopkins Hospital during the years 1889-1899 was 7.5 per cent. Comparison tends to show that typhoid fever patients' chances for recovery are not necessarily minimized by being transported long distances on railway trains.

In the hospital we used Widal's method of serum diagnosis in a considerable proportion of the cases, particularly the doubtful ones. I wish incidentally to call attention to an objective symptom of typhoid fever, namely, tremor of the tongue. I have found it almost universally in all grades of cases, and from the earliest stage to convalescence. In character it may vary from complete loss of muscular control to a mere vibrating tremor movement, noticeable only near the tip. Associated with other of the usual clinical symptoms I have found it of value before Widal's reaction test could be elicited.

2. "Surgical Complications and Sequels of Typhoid Fever," 1898.
3. "Surgical Treatment of Perforating Typhoid Ulcer," Johns Hopkins Hosp. Rep., vol. viii, 1900.
4. "Intestinal Perforation of Typhoid Fever," Annals of Surgery, January, 1904.

Case.	Age.	General Course of Disease.	Bowels.	Hemorrhage.	Tympanites.	Day of Perforation.	Mode of Onset.	First Symptoms.	Abdominal Pain.	Chill.	Sweating.	Vomiting.	Collapse.
1	26	Moderately severe.	Diarrhea not severe	None.....	Not marked	16th....	Sudden.....	Severe pain in abdomen.	Yes.....	No..	Profuse cold sweat.	Yes, a dark green material.	No.....
2	20	Mild	Constipation.	Two hemorrhages from nose on day of perforat'n.	Not marked.	16th....	Sudden.....	Severe pain in abdomen.	Yes.....	No..	No ..	Yes	No.....
3	3	Mild	No diarrhea.	None.....	Not marked.	11th....	Sudden.....	Ch	Yes, very severe.	Yes..	Yes ..	Yes	No.....
4	25	Severe, with mental apathy and delirium.	Slight diarrhea.	None.....	Yes	17th....	With marked typhoid state; abdomen distended and involuntary bowel movement of small watery stools.	Distention of abdomen; irregular breathing; subjective symptoms concealed.	No, comatose..	No..	No ..	Yes, before onset of perforation.	Yes...
5	25	Mild ...	No diarrhea.	From bowels 7 days before perforation; temp. fell 3 degrees.	Not marked.	30th....	During bowel movement sudden severe diffuse pain in abdomen.	Severe cramp-like pain lasting only a few minutes.	Yes, very severe: diffuse at first; later localized in right iliac fossa.	No..	No ..	Ye	No.....
6	27	Mild, early convals., relapse, complicated with phlebitis.	No diarrhea.	None.....	Yes	31st; 8th day of relapse.	Sudden severe abdominal pain; patient cried out in agony; face and extremities cold and clammy; pain in genitals.	Severe pain in abdomen.	Yes, diffuse; referred also to penis and scrotum.	No..	Yes ..	Yes....	Yes ...
7	24	Severe....	No diarrhea.	One on day of perforation.	Not marked.	19th....	Gradually increasing distension and tenderness; hemorrhage from bowels	Rigid abdomen, tender on pressure; rapid pulse.	None	No..	No ..	Yes, late..	No.....
8	20	Severe. Marked mental apathy.	No diarrhea.	Yes, 3 on different days preceding perforat'n.	Yes, marked.	18th....	Sudden	Severe pain near McBurney's point; chill.	Yes, severe in right iliac fossa.	Yes..	No ..	Yes, late...	No.....
9	29	Severe; high temp. and delirium.	No diarrhea.	None.....	None, until late in disease.	17th....	Sudden; severe abdominal pain; lips pallid; very restless; skin cold and clammy.	Paroxysmal pains in abdomen.	Yes, severe in right iliac fossa.	No..	Yes, on extremities.	No	Yes, very marked.
10	24	Mild, rapid convals., relapse severe.	No diarrhea.	None.....	Not marked.	22nd, 30th day of relapse.	Sudden; severe colicky pain; lips pallid; face drawn and expression anxious.	Severe paroxysmal pain; most marked in right iliac fossa.	Yes, severe and diffuse at first; later localized on right side.	No..	Yes, slightly.	No	No.....
11	43	Mild; mental condition rather dull.	No diarrhea.	None.....	Yes, marked.	15th....	Sudden; severe pain in abdomen with signs of collapse.	Severe abdominal pain; chill.	Yes, diffuse at first; later more on right side.	Yes..	Profuse cold sweat.	No	Yes ...

As regards the general treatment of the cases, I would say that in this hospital for more than sixteen years we have relied mainly on the tub bath.

The detailed histories and a table of our perforation cases will be given after the treatment.

PATHOLOGY OF INTESTINAL ULCERATION AND PERFORATION.

The lesions of the intestine in typhoid fever consist mainly of changes in the lymphoid tissue and these may be divided into four stages: First, the stage of hyperemia; second, that of medullary infiltration; third, that of necrotic destruction and ulceration, and, fourth, that of cicatrization. "In general these anatomic stages correspond with the clinical course of the disease. It is to be borne in mind that the intestinal lesion does not develop and extend simultaneously and uniformly, but rather in stages, often distributed over a considerable period of time, and it likewise undergoes involution in a corresponding manner" (Curschmann). This, in a measure, will account for the appearance of perforation at varying times in a long list of perforation cases. For a more extended description of the minute anatomic changes of typhoid fever, such authorities as Curschmann, Osler, Mallory and others may be referred to.

The so-called medullary infiltration and consequent coagulation necrosis may only extend to the muscular coat, which would form the base of the ulcer. This is most frequently the case. Or the ulcerative destruction

Temperature.	Pulse.	Respiration.	Condition of Abdomen.	Liver Dullness.	Leucocytes.	Operation.	Hrs. After Perf.	Result.	Autopsy with Findings.	Condition of Appendix at Operation or Autopsy.	Number and Location of Perforations at Autopsy or Operation.
Fell from 102.2 to 97.2; then rose to 104.4.	Rose from 92 to 140.	Somewhat quickened.	Tender on right side.	None noted.	No count	No	. .	Death in from 48 to 50 hrs.	No autopsy.	. . . . .	. . . . .
Rose to 103 then fell to 102.	Rose from 98 to 112.	Not noted. .	Extremely tender in right iliac region.	Not mentioned.	No count	Yes	6	Death in 12 hours.	Partial autopsy. .	Not reported	Two in ileum 15 and 21 in. above cecum.
Rose to 104.6 then fell to 100.	Rose from 98 to 124.	Rapid violent hiccough.	Noticeable tender mass in right iliac area.	Not mentioned.	No count	No	. .	Death in 55 hours.	No autopsy.	. . . . .	. . . . .
By axilla; rose 101-104; later fell to 103.2.	Rose from 120 to 144.	Rose from 24 to 44.	Distended. . .	Abolished.	No count	No	. .	Death in about 96 hours.	Partial autopsy showed typical typhoid ulcers; intestines matted together with many adhesions. (One perforation found in ileum 12 in. from cecum.	Very adherent and inflamed.	One in ileum 12 in. above cecum junction.
Fell at first to 99.8; then rose 102.2.	Rose from 84 to 108.	Very rapid and shallow; hiccough.	Distended and extremely tender.	Obliterated.	No count	Yes	19	Death in 28 hours after perforation & 56 hrs. after operation.	Partial autopsy; bowels covered with deposit of lymph; perforation closed and stitches holding; appendix adherent.	Much inflamed and adherent; not removed at operation. (Patient in bad shape)	One was located in ileum 6 in. from colon. Wound admitted end of finger; only one perforation found; free fecal matter in cavity at operation.
High at first 104; fell quite rapidly to 95.4 before death.	Rose from 106 to 122; very weak.	Shallow and very rapid.	Distended; very rigid.	Obliterated.	No count	No	. .	Death in 25 hours.	Partial autopsy; abd. cavity contained free fecal matter and a large amount of turbid fluid; many ulcers with softened bases; one perforating; clot in femoral vein.	Thickened and adherent.	One found at autopsy; located 18 in. from ileocecal valve, large size.
No change . .	Rose from 100 to 150.	Rapid. . . .	Board-like; very tender.	Obliterated.	7,804 immed'ly after onset of sympts.	No	. .	Death in 30 hours.	No autopsy.	. . . . .	. . . . .
Rose, then fell; after operation fell to 97, then rose to 103.	Rose slightly before operation; markedly after, to 150.	No change . .	Partly distended; hard.	No marked change.	1 2, 7 2 5 made just after onset of sympts.	Yes	2	Death in 10 days and 4 hrs. after perforation.	Complete autopsy; negative except in abdomen; purulent exudate; catgut suture given way with opening into bowel free. No attempt at repair.	Very adherent, much thickened; removed at operation.	One very small one found 2 in. from ileocecal valve.
Fell from 102 to 98 4.	Almost imperceptible; rose from 96 to 134.	Rapid and shallow; rose to 0.	Very rigid and tender.	Nearly obliterated.	No count	No	. .	Death in 55 minutes after perforation (approximately).	No autopsy.	. . . . .	. . . . .
No marked change.,	Rose after operation from 84 to 116; no change before.	Rapid and shallow; thoracic.	Very rigid; moderately distended.	Not obliterated.	No count after perforation.	Yes	2¼	Recovery. .	. . . . .	Very much inflamed; removed at operation.	Two small pin-point perforations found in ileum close to colon. 1 other large one (⅛ in. in diam.) 12 in. from colon.
No change before operation; after operation it rose to 101.4 then fell to 97; then vacillated.	No change before operation; after operation it varied between 130 & 148; was between 82 and 90 before perforation.	Rose in frequency; very shallow.	Moderately distended; very rigid; painful on pressure.	Partial obliteration.	No count	Yes	3¼	Death in 75 hrs. after perforation and 71¼ hrs. after operation.	No autopsy.	Much congested and inflamed; removed at operation.	Two perforations found in ileum, within 6 in. of colon; and one pin-hole perforation 15 in. above cecum, closed by plastic lymph and adherent omentum and surrounded by o'd peritonitis. Free pus in peritoneal cavity.

may include the muscular layer and subserous tissue and leave only the peritoneal coat, through which infection may pass and cause a local peritonitis. Again, it may involve the whole thickness of the intestinal wall, and when the slough separates a complete perforation results, varying in size from a pin hole to an opening including a third or more of the circumference of the bowel. The escape of intestinal contents and infective germs may vary from a minute quantity to a sufficient amount to flood a great portion of the peritoneal cavity, depending usually on the size of the perforating ulcer. When the amount of leakage is great, general peritonitis is almost certain to appear in a very short time. When the opening is extremely small and the leakage slight, there may be only a localized peritonitis. In Case 11 of this series it was disclosed at operation that there had been an early pin-hole perforation with localized peritonitis to the extent of eroding the bowel of its glossy appearance throughout the affected area, and later two large ulcers in other locations had perforated, causing the symptoms which called for operation. The primary perforation had been closed by plastic matter and the adhesion of the neighboring omentum.

In certain cases in which the peritonitis is limited and limiting adhesions and walling off has occurred, abscesses may appear and require to be dealt with weeks and may be months afterward.

In form the perforation may be large and irregular,

large and circular, small and cribriform, or it may be slit-like or oblong. The large circular ulcers are thought to be due to sloughing, the cribriform to ulceration, and the slit-like to mechanical traumatism. They are usually opposite the mesenteric attachment, though rarely they may open between the folds of the mesentery and cause a retroperitoneal abscess.

The perforation, as a rule, is single. In the five patients operated on, however, it was single in only two; in two of the cases there were two perforations, and in one three.

The site of perforations is usually found in the lower end of the ileum within from 12 to 18 inches of the cecum. Infrequently it may occur at any point along the digestive tract. It is not infrequently seen in the cecal region of the colon, including the appendix. Typhoid ulceration (rarely with perforation) may be found widely scattered along the digestive tract. A number of well-authenticated cases of typhoid ulceration of the esophagus and consequent stricture have been reported. Mitchell[5] reports eight cases. I have seen two cases of esophageal stricture following well-authenticated typhoid fever. In neither case could the stricture be charged to traumatism occurring in the course of the disease. In both cases it supervened before convalescence was established. The first case was in a young girl of 20, seen in consultation with Dr. F. J. Campbell of Fargo, N. D., about ten years ago. The stricture was located about the junction of the middle and upper thirds of the esophagus. Soon afterward the patient developed an empyema which so reduced her strength that she could not undergo an operation for the stricture, which still persisted, and she died a few weeks later. The second case, also in a young girl of about 20, was seen in consultation with Dr. John H. Dunn, of St. Cloud, about three years ago. The stricture was located at the junction of the middle and lower thirds. Later it was found necessary to do a gastrostomy to assist in overcoming the stricture. The patient, I am informed, made an excellent recovery.

SYMPTOMS.

Perforation in typhoid fever rarely occurs during the first week of the disease; the majority of cases are seen during the second and third weeks; it may occur, however, at any time during the latter part of the disease and convalescence. It is not infrequently seen during a relapse. The so-called preperforative symptoms are usually too vague and indefinite to be of much practical value to the average practitioner doing his work outside of hospitals.

Pain.—The earliest reliable symptom of perforation is pain, which usually is complained of in the cecal region; it may be referred, however, to the epigastric or pelvic regions. Occasionally pain is complained of in the genitals. The character of the pain may vary from a severe stabbing nature to more or less of a dull ache. Often its severity will cause the patient to cry out from his suffering. Patients who are irrational may fail to complain of pain. Occasionally with pin-hole perforations and limited peritonitis there may be no complaint of pain (Case 11).

Rigidity.—The next most important symptom is rigidity of the abdominal muscles, following quickly after the appearance of pain. This rigidity may be confined to the right internal and external obliques and the recti muscles, or the whole abdomen may be rigid.

5. Johns Hopkins Hosp. Rep., vol. viii.

Tenderness.—This is the next symptom of marked importance and is usually found in the cecal region, though it may also be adduced by pressure toward the epigastric or pelvic regions. All other symptoms are of varying importance.

Vomiting.—Thi is a symptom which may occur coincidentally with, or soon after, the appearance of pain. In some cases of typhoid fever, however, vomiting is a symptom that appears early and frequently throughout the acute stage of the disease. In such a case its value as a symptom of perforation would not be of marked importance.

Temperature.—In quite a number of cases of perforation there is often a remarkable drop of temperature, sometimes to near the normal point; with the advent of peritonitis the temperature again rises.

Pulse and Circulation.—The shock of perforation and peritonitis usually lowers the force of the pulse, while the rate is greatly increased, often from the usual rate of 90 to the unusual one of 130 or more. The skin of the face and hands may appear pallid and even somewhat cyanosed, and is frequently covered with profuse perspiration.

Respiration.—The respiration may be somewhat quickened, but is not likely to become costal in character until peritonitis is established.

Facial Expression.—In perforation the expression of the face is often marked by anxiety, suffering and general distress to an extent which might be called characteristic, almost Hippocratic in type.

Liver and Movable Dullness.—Liver dullness must have been carefully noted, from time to time, prior to perforation, to be a symptom of important value. Preexisting tympany may have reduced the area of liver dullness almost to the vanishing point before the admission of free gas into the peritoneal cavity. Movable dullness in the flanks is not likely to be present until peritonitis with effusion has appeared; hence it could only be a symptom of late value.

Blood.—Leucocytosis may be mentioned as a symptom of possible value. To be of practical utility, however, a leucocyte count would necessarily have to be made hourly as it (leucocytosis) would not appear until peritonitis had supervened, and to wait for this might be a waste of valuable time.

Summary of Symptoms.—Given a case of typhoid fever with clinical symptoms, pathognomonic of the disease, backed up by Widal's serodiagnosis, if possible, and presenting, after the first week, the three cardinal symptoms, pain, rigidity and tenderness in the cecal region, supplemented by some of the less valuable symptoms, and it will not only be expedient, but reasonable to diagnose intestinal perforation.

Osler's schema[1] for the observation of perforation symptoms should always be at hand for the observance of internes and nurses.

DIFFERENTIAL DIAGNOSIS.

It may be necessary frequently to differentiate between intestinal perforation of typhoid fever and acute appendicitis, with or without perforation; from intestinal hemorrhage of typhoid; from typhoidal peritonitis without perforation; from peritonitis due to tubal disease; from gangrene or perforation of the gall bladder; from perforating gastric and duodenal ulcers; and from suppurating mesenteric glands.

Time will not permit me to consider the symptoms, conditions and features that might be adduced in differ-

entiating each of the above. Cumston,[6] of Boston, in an extended review, terminates his article by saying: "In closing, I think I can sum up in a word all that has been said in this paper, namely, that every time an appendicitis exists, either alone or associated with typhoid fever, an operation is indicated." I believe the same conclusion, namely, operation, would hold good for all the other conditions, with the possible exception of intestinal hemorrhage, and even this has been surgically treated with reported success.

PROGNOSIS.

The prognosis in intestinal perforation of typhoid, without operation, is almost hopeless. The chances for recovery do not exceed 5 per cent., under the most sanguine expectations. With operation, the prognosis will depend, in a large measure, on early surgical interference, the extent of the peritonitis, the physical condition of the patient, and the absence of secondary perforation and intestinal hemorrhage. Some writers claim that there should be 50 per cent. of recoveries if the operation is undertaken within the first three hours. With the marked improvements in the treatment of peritonitis, these hopes would not seem to be too sanguine. At Johns Hopkins Hospital 30 per cent. of recoveries were obtained from all operations. In my fatal operative cases, one patient who was operated on 19 hours after symptoms of perforation lived for 55 hours and succumbed to general peritonitis; another lived ten days.

TREATMENT.

All patients with typhoid fever who have suffered intestinal perforation, immediately on diagnosis, should be treated by laparotomy, and the only deterrent to operation should be a moribund condition of the patient. Wilson has well said: "The courage to perform it (operation) will come of the knowledge that the only alternative is the patient's death."

Anesthetic.—I have used local anesthesia, from cocain, and general anesthesia, with ether, and my preference is decidedly for the latter.

The Incision.—The incision that I have found the most useful and satisfactory is the one made through the right rectus muscle and opposite the cecal region. After gaining entrance to the peritoneal cavity the appendix and cecum—even the ascending colon—should be thoroughly examined; next, the lower portion of the ileum, beginning at the cecum. When the perforation is found, it is best to close it with a suture of linen or silk; if small, it can be readily closed with a purse-string suture; if large, Lembert's, Halstead's mattress, or Cushing's right-angled sutures may be used; in some instances, it will be well to strengthen with a second tier. There is a difference of opinion among writers as to whether the opening should be closed in the longitudinal or transverse direction of the bowel. Probably this is a matter of no particular moment, unless the opening is so large that the necessary suturing may diminish the lumen of the bowel to dangerously narrow proportions, in which case the question of resection may have to be considered. If there are other ulcers presenting a perforating appearance, it would be wise to place reinforcing sutures to prevent future accidents.

If the appendix is inflamed, as it frequently is, it should be removed, even though perforation is not present. In the last three cases it was found decidedly inflamed and in each instance it was removed.

The toilet of the peritoneum is important and probably would be the next step in the progress of the operation. If there has been a considerable escape of fecal matter, irrigation with normal salt solution would be of value. If fecal matter is not present (and the peritonitis is confined to the region of perforation) or has gravitated to the pelvis, the effusion fluid may be withdrawn by a suction syringe or removed by careful sponging. Tubular drainage should be introduced to the bottom of the pelvis, probably through a stab wound on the left, as well as through the operation wound on the right. This should be supplemented with the necessary amount of Penrose and gauze drainage. At this time the sutured portion of the bowel should be brought opposite the operation wound and maintained there by gauze or by a few stitches of ten-day catgut. This position of the bowel will be of decided advantage in case the suturing should yield and leakage result. Such portion of the wound unoccupied by drainage may be closed with through-and-through sutures. After the application of a voluminous dressing and the return of the patient to bed, he should at once, or as quickly as possible, be placed in Fowler's position to allow gravitation of effusion fluid into the pelvis, where the drainage has been placed. The after-treatment will consist of the necessary surgical attention and such general typhoid treatment as may be applicable.

If positive symptoms of postoperative perforation occur, one should not hesitate, if the patient's condition will permit, to reopen the wound or to perform a new laparotomy and deal with the conditions found. Cushing[7] reports a case with recovery in a boy of 9 years, in whom laparotomy was performed three different times: First, for perforation; second, for supposed perforation, and, third, for acute intestinal obstruction, when a new perforation was also found.

I am greatly indebted to Dr. W. H. Buskirk for his valuable and painstaking assistance in the examination and selection of data from our hospital and clinical records for the purposes of this article.

CASE 1.—Male, aged 26, was admitted to the hospital July 29, 1890; diagnosis typhoid fever. Temperature, 102.8; pulse, 80. No history is recorded of condition prior to admission. The course of the disease was moderately severe throughout, temperature running from 101.2 to 102 in the morning and from 103 to 104.8 in the evening; pulse averaging 85 and never going above 98. There was some diarrhea. The patient perspired freely at times.

August 9: At 7:15 a. m. temperature was 102.2; pulse, 92. Patient was suffering severe pain in abdomen. At 10 p. m. temperature was 101; pulse, 104. There was persistent vomiting of dark green material, with undigested milk.

August 10: At 7 a. m. temperature was 97.2; pulse, 100; patient still in great pain. At 4 p. m. temperature was 104; pulse, 130; patient covered with cold sweat. At 6:30 p. m. temperature was 101.4; pulse, 140; still in cold sweat.

August 11: Patient gradually sank and died at 8:45 p. m. Perforation occurred on the fourteenth day after admission, and death in from 48 to 50 hours after perforation. No autopsy.

CASE 2.—Male, aged 30, was admitted to hospital Feb. 4, 1891, having been sick one week; diagnosis typhoid fever. He had a moderate run of fever, with temperature running from 100.8 to 103.2, pulse averaging about 90. There was no diarrhea or hemorrhage; his general condition was good.

March 4: At 8 a. m. there was some pain in the abdomen; two hemorrhages occurred from the nose; there was vomiting during the late afternoon. Temperature was 100 in morning, rising to 103 at 1 p. m. and dropping to 102 at 4 p. m. Pulse was 98 at 8 a. m., 100 at 1 p. m., and 112 at 4 p. m. The symp-

6. "The Clinical Aspect and Differential Diagnosis of Appendicitis and Typhoid Fever," Amer. Jour. of the Med. Sciences, May, 1905.

7. Johns Hopkins Hosp. Rep., vol. viii.

toms grew rapidly worse and perforation was diagnosed. At 9 p. m. laparotomy was performed; median incision was made. Fecal matter was found scattered throughout the peritoneal cavity. A perforation, irregular in shape and nearly three-quarters of an inch in diameter, was found in the ileum about 15 inches from the cecum; an attempt at suturing followed, but was unsuccessful because of the friable and softened condition of the intestinal walls. Patient being in collapse, only drainage was inserted in wound.

He was returned to bed. His condition grew steadily worse and he died at 4 a. m. March 5, 12 hours (estimated) after perforation; on the sixteenth day of the disease. Partial autopsy revealed general peritonitis and a second perforation of the bowel 6 inches above the one found at operation.

CASE 3.—Male, aged 43, was admitted to hospital Oct. 17, 1891. He had been sick 10 days; diagnosis, typhoid fever. His condition was not bad; temperature varied from 101 to 102, and pulse from 80 to 92 on day of admission.

October 18: At 2:15 a. m. he had a chill; temperature, 103.2. At 3 a. m. there was severe pain in the abdomen, continuing during day. At 4 a. m. temperature was 104.6, and pulse 98. At 8 p. m. temperature was 104, and pulse 106.

October 19: At 4 a. m. temperature was 102.4, and pulse 104. At 8 p. m. temperature was 100, and pulse 112. The patient was feeble; he vomited several times during the day and sweated profusely; he had violent hiccough. The pain continued severe during day.

October 20: His condition grew worse during the early part of the night. At 4 p. m. temperature was 100.2, and pulse 124, and was growing more feeble and rapid. At 9:30 a. m. there was vomiting. At 9:38 a. m. death occurred. Perforation occurred on the eleventh day of the disease; death, 55 hours later. There was no operation. No autopsy.

CASE 4.—Male, aged 28, was admitted to the hospital Aug. 23, 1896. He had been sick seven days; diagnosis, typhoid fever. He had a severe run of fever, with temperature from 102 in the morning to 104.8 and 105 in the evening. Pulse from 106 to 126. There was slight diarrhea, some vomiting, and mental apathy with some delirium.

September 2: Patient had been in marked typhoid state and delirious; the abdomen was distended. At 7:30 p. m. respiration was very irregular, and there were involuntary bowel movements. Temperature was 101.2; pulse, 120, and respiration 24. At midnight the axillary temperature was 104; pulse, 132, and respiration, 32.

September 3: Temperature varied from 103 at 4 a. m. to 104 at 4 p. m., pulse ranged from 120 to 130, and respiration from 26 to 30. The patient was delirious, and the abdomen was distended.

September 4: At 4 a. m. the temperature was 102, pulse 120, and respiration 34. At 4 p. m. temperature was 103.2, pulse 144, and respiration 44. Symptoms of previous day were more marked.

September 5: All symptoms were increased in severity, and the patient died at 3:35 a. m. There was no operation. A partial autopsy showed abdominal ulcers, one of which had perforated. There was also considerable peritonitis.

CASE 5.—Male, aged 25, was admitted to hospital Oct. 14, 1897. He had been sick two weeks; diagnosis, typhoid fever. The fever ran a light course, the temperature averaging 103.6 in the evening and pulse not over 80.

October 23: There was hemorrhage from the bowel, but no symptoms of collapse; temperature fell from 101.8 to 98.8, and pulse from 76 to 60. The patient did well for several days after the hemorrhage, temperature and pulse running as before.

October 30: At 5:30 p. m. there was a sharp pain in the abdomen during passage of stool; respiration increased; face became pinched in appearance. The patient lay in bed with his knees drawn up. The temperature fell at first and then rose. Perforation was thought of, but the surgeon was not warned until next morning.

October 31: Operation was performed at 11 a. m., 19 hours after first symptoms of perforation. A median incision was made below the umbilicus. On opening the abdomen a large amount of gas and fecal matter escaped through the wound. The intestine was covered with lymph deposit, and there were numerous adhesions. In the ileum, about 6 inches from the colon, a large perforation was found, which would admit the end of the fingers; the edges were well defined. Other unperforated ulcers were apparent through the bowel wall. The peritoneal cavity was sponged dry and flushed with normal salt solution; tubal drainage was inserted and the wound partly closed.

November 1: The condition became critical, and there was some vomiting. At 4 a. m. the temperature was 101, pulse 134. At 4 p. m. temperature was 101, pulse 130 and weak.

November 2: At 4 a. m. the temperature was 101, and pulse 144. At 4 p. m. temperature was 104.2, and pulse 160. The patient grew rapidly worse and died at 8:30 p. m.

Autopsy showed very severe general peritonitis, with extensive adhesions. Suturing in the bowel was intact. Perforation occurred on the thirtieth day of the disease; death occurred 75 hours after perforation and 56 hours after operation.

CASE 6.—Male, aged 37, was admitted to hospital Oct. 22, 1898. He had been sick ten days; diagnosis, typhoid fever. At the time of admission there was tympanites and some vomiting; rose spots were also present. The case ran a light course after admission to hospital until convalescence began. The man had a relapse, beginning November 4, but it was not severe. On November 9 he developed a phlebitis.

November 12: During the day the temperature ran high and the pulse increased. At 4 a. m. the temperature was 103.6 and pulse 106. At 4 p. m. the temperature was 104, pulse 108. At 9:30 p. m. there was sudden acute abdominal pain; the patient cried out in agony; the abdomen became rigid; extremities and face were cold and clammy; pulse was rapid, feeble and fluttering. Pain was referred to genitals.

November 13: At 4 a. m. the temperature was 102 and pulse 122. At 4 p. m. temperature was 97, pulse 122. There was severe pain throughout the day, with vomiting, delirium and cold sweat. Temperature was subnormal all day, running as low as 95.6. The condition grew worse, and the patient died at 10:30 p. m.

No operation was performed, because of the severe phlebitis and the low condition of the patient. Autopsy showed perforation of ileum 18 inches from the ileocecal valve, with free fecal matter and turbid fluid in the abdominal cavity. There were numerous ulcers with softened bases, one black and almost perforated, and a clot in the femoral vein extending into the pelvis.

CASE 7.—Male, aged 24, was admitted to the hospital Sept. 23, 1902. He had been sick two weeks; diagnosis, typhoid fever. Rose spots were present on admission. The case ran a severe course after admission, temperature running from 102.6, with pulse 96, in the morning to temperature of 105 and pulse 116 in the evening.

September 29: At 7 a. m. temperature was 102 and pulse 100. At 8 p. m. temperature was 103.2 and pulse 120. The condition of the patient was the same as on former days until 8 p. m., when there was hemorrhage from bowels.

September 30: At 4 a. m. the temperature was 101 and pulse 100. At 3 p. m. temperature was 101 and pulse 144. Blood count showed 7,894 leucocytes. The condition was serious; pulse was rapid and weak. He did not complain of pain; abdomen was rather rigid and somewhat tender on pressure; liver dullness was diminished.

October 1: At 8 a. m. the axillary temperature was 98 and pulse 120. At 8 p. m. the axillary temperature was 101.4 and pulse 150. He vomited during the day. Death occurred at 11:30 p. m. Perforation occurred on the nineteenth day of the disease. No operation (no reason given in clinical history). Death occurred in about 30 hours after perforation. No autopsy.

CASE 8.—Male, aged 20, was admitted to the hospital Jan. 23, 1903. He had been sick one week with prodromal symptoms of typhoid; diagnosis, typhoid fever. The general condition on admission was rather bad; the abdomen was distended and there was pronounced typhoid mental condition. At 7 a. m. the temperature was 103 and pulse 72. At 8 p. m. the temperature was 104 and pulse 94. The patient had two hemorrhages on January 24, one on January 25, another on

January 26; also a slight chill, and another hemorrhage on January 27. During this time the temperature continued high, and pulse ran from 78 to 84. There was no diarrhea.

January 31: The general condition was about the same. At 8:30 p. m. he was taken with sudden severe pain in the abdomen in the right iliac region. He had a chill at 9 p. m. The abdomen became distended and there was general abdominal tenderness more marked at McBurney's point. The pulse was rapid and weak, and the facial expression anxious and drawn. At 10:30 p. m. (diagnosis of perforation having been made) operation was performed under cocain until bowels were exposed; then ether was given. The incision was made through the right rectus. The bowels were much distended, and there were numerous adhesions around the appendix, which was somewhat thickened and congested. The appendix was ligated and the stump turned in by means of formalized catgut suture. A small pinhole perforation was found in the colon within one inch of the appendix; it was closed with Lembert sutures of silk. An ulcer, with gangrenous look and threatening perforation, was found 4 inches from the ileocecal valve; it was reinforced with suture of silk. There were no signs of peritonitis and no increased amount of fluid in the peritoneal cavity. Only local drainage was used, and the wound was closed up to drain. For several days after operation the patient's condition was quite good.

February 3: At 4 a. m. the axillary temperature was 98.8 and pulse 80. At 8 p. m. the axillary temperature was 98.6 and pulse 92. Some distension was present and there was considerable vomiting on this day.

February 7: The patient's condition was serious. At 4 a. m. the temperature was 100.8 and pulse 120. At 8 p. m. the axillary temperature was 104.6 and pulse 128 and weak. The abdomen was distended and tender; there was no infection of the abdominal wound.

February 8: Condition was still serious. Temperature and pulse were about the same as day before. He had blood in stools twice on this day; there was not much reaction of temperature and pulse. At 4 a. m. temperature was 103.8 and pulse 130. At 8 p. m. temperature was 104 and pulse 130.

February 9: Patient's condition was much worse, temperature being uniformly high and pulse rapid and weak.

February 10: Temperature reached 105 and axillary pulse 150. Patient died at 12:20 a. m. February 11.

Complete autopsy: Examination was negative, except in the abdomen. The bowels were found covered with purulent exudate, but not distended; the catgut suture which had closed the stump of the appendix had been absorbed, and, as there were no attempts at repair, the stump was open. The perforation and ulcer, which had been reinforced with silk sutures, had held firmly. The peritoneal exudate was much more marked in the right iliac fossa than elsewhere. There were no fresh perforations. Perforation occurred on the forty-eighth day of the disease and death in ten days and four hours after operation. A mistake was made in this case in using catgut instead of silk for closing the appendiceal stump, and later in not reopening the wound for exploration.

Case 9.—Male, aged 30, was admitted to the hospital Oct. 28, 1904. He had been sick ten days; diagnosis, typhoid fever. He had nose bleed, headache and other characteristic symptoms of the disease, which ran a severe course, the temperature ranging from 102, with a pulse of 96 in the morning to 104, with pulse of 104, in the evening. There was slight vomiting, with some delirium. There was no tympanites until November 1.

November 24: Axillary temperature was 98.4 and pulse 132 at 7 a. m.; respirations, 40. Patient was sweating. At 8:45 a. m. there was sudden severe abdominal pain, occurring in paroxysms; the expression was anxious. The patient was very restless; his lips were pallid; his extremities cold and covered with cold sweat. The abdomen was rigid and extremely tender, the tenderness being most marked in the right iliac fossa. The pulse was rapid, thready and almost imperceptible. At 9:40 a. m. death occurred.

Perforation occurred on the seventeenth day of the disease; death after perforation (estimated) in 55 minutes. No operation. No autopsy.

Case 10.—Male, aged 24, was admitted to hospital Dec. 6, 1904. He was admitted primarily for injury, but complained of having been sick for two or three days. He developed a light run of typhoid; rose spots were present; temperature ran from 100 to 102 and pulse was practically normal; he complained early in the disease of some pain in the right fossa. Blood count, December 9, leucocytes were 10,186, and on December 15, 11,457. He had a typical convalescence, beginning December 24. Temperature was normal all day December 25. Diet was gradually extended. The patient was up and about.

January 17: He had a well-marked relapse, with all symptoms much more severe than during previous illness.

January 19: Temperature was 100.8, with pulse 104 in the morning. Temperature was 100.8, with pulse 110, in the evening. The condition was about the same on January 25.

January 26: Respirations ranged from 20 to 24 and were shallow; there was no delirium, no chills, no diarrhea. This condition continued without change until January 27.

January 27: At 7:30 a. m. the patient was taken with severe abdominal pain, paroxysmal in type and of a colicky nature. His face was drawn and his expression anxious; the lips were slightly pallid; the abdomen was board-like, and there was general diffuse tenderness, most marked in the right iliac fossa. Liver dullness was not obliterated. Perforation was diagnosed, and at 10:15 the patient was taken to the operating room.

Operation.—A lateral incision was made through the right rectus. The appendix was very much inflamed and was removed; the stump was closed with a purse-string suture of silk. The appendix was not gangrenous or perforated. The ileum was examined; two small pin-point perforations were found close to the cecum and were closed with purse-string sutures of silk. Two ulcers were found near the same area with their bases much inflamed; they were reinforced with continuous sutures of silk. About 12 inches from the colon a large perforation was found with well-marked borders and a punched out appearance; it was one-eighth of an inch in diameter. It was turned in with purse-string suture of silk. General peritonitis present; the abdominal cavity was filled with a seropurulent fluid. A tube and three Penrose drains were inserted to the bottom of the pelvis. The upper angle of the wound was closed with three interrupted sutures of silkworm gut. The patient stood the anesthetic well and was placed in bed in Fowler's position. During the evening he received a hypodermoclysis of physiologic salt solution and heart stimulants.

January 28: His condition was fairly good; temperature was 99.2 and pulse 98 in the morning; in the evening the temperature was 101.2 and pulse 116. There was profuse serous drainage from the wound; the abdomen was slightly distended. There was a small bowel movement.

January 29: His condition was fairly good; temperature was 98 and pulse 88 in the morning. Temperature was 99.8 and pulse 100 in the evening. The Penrose drains were removed and glass drains inserted. The discharge became more purulent; there was some tympanites and some flatus was expelled.

From now on improvement continued; there was some infection of the wound, which promptly cleared up. He did not have much temperature after the operation. Diet was extended on February 18. He was sitting up in bed on February 22, and was up and about on February 28. He had a slight relapse, not severe, on February 28, which only lasted eight days. Improvement in all respects followed. He was discharged, cured, on April 12, 1905. Perforation occurred on the fifty-second day of the disease and the tenth day of the relapse. He was operated on 2 hours and 45 minutes after perforation occurred.

Case 11.—Male, aged 43, was admitted to the hospital Feb. 16, 1905, on the tenth day of the disease. He had a light run of typhoid; there was enlarged spleen, and rose spots were present. Temperature ranged from 100.8 in the morning to 101.6 in the evening; the pulse varied from 80 in the morning to 88 in the evening. There was considerable tympanites, but no diarrhea. There was no delirium, but the mental condition was dull throughout.

February 21: His condition in the morning was similar to

that of the last few days, but at noon he was taken with severe abdominal pain; there were symptoms of collapse; the pulse became more rapid and weak; the patient was covered with profuse cold sweat; face was pinched; lips were pallid; abdomen was rigid and very painful on pressure; there was partial obliteration of the liver dullness. At 12:30 he had a chill; at 3:15 he was operated on. A lateral incision was made through the right rectus. On opening the abdomen a large amount of pus was found between coils of intestine; the appendix was inflamed and congested and was removed. Two perforations were found within 8 inches of the colon; they were closed with a purse-string suture of linen. About seven inches above this was found a small pin-hole perforation which had been closed by plastic matter and adhesion of the neighboring omentum. All the bowel in this area showed signs of old peritonitis, which must have existed for some days, as the surface of the intestine was eroded and roughened. Pus and other effusions were wiped out carefully with moist gauze, and the peritoneal cavity made apparently clean. One rubber tube drain was inserted to the bottom of the pelvis and five Penrose drains were inserted in various directions. The upper angle of the wound was closed with through-and-through sutures of silkworm gut. The patient was placed in Fowler's position after return to bed. During the afternoon his condition was very critical. At 7 p. m. his temperature was 101.4, pulse 130 and weak. Stimulants were administered, such as enemata of coffee, whisky and normal salt solution, by hypodermoclysis. The wound was dressed in the evening; there was profuse drainage.

February 22: The condition was not so good; at 7 a. m. the temperature was 98 and pulse 134; at 7 p. m. temperature was 98.6 and pulse 140. Some gas was expelled following an enema of turpentine and asafetida. There was profuse seropurulent discharge from drains.

February 23: The condition was worse. At 7 a. m. the temperature by axilla was 102 and pulse 148; at 7 p. m. the temperature by axilla was 100 and pulse 134. He gradually grew weaker. Some gas was expelled following an enema; at 6 p. m. a large amount of blood was passed in the stool.

February 24: Condition was still very bad. At 12:45 a. m. there was more blood in stools; at 2:15 a. m. there was an extensive hemorrhage from bowels; at 7 a. m., axillary temperature was 102, pulse 148 and almost imperceptible. Death at 2:45 p. m.

Perforation occurred on the fifteenth day of the disease; death occurred 74 hours and 45 minutes after perforation and 71 hours and 30 minutes after operation. No autopsy.

THE IMPORTANCE OF THE FIRST STEPS IN ARTIFICIAL FEEDING OF INFANTS, WITH PRACTICAL POINTS ON THE USE OF TOP MILK MIXTURES.

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There is probably no cause of chronic digestive disturbances in infancy which can be more easily avoided than improper methods of artificial feeding during the first few months of the infant's life, for this is the time when the average infant receives little, if any, of the physician's attention. Most of the ills of this period are ascribed to immaturity or to innate depravity, and the newborn one is left to work out his salvation with the aid of the attendant nurse and family.

Holt has repeatedly affirmed that under favorable conditions, when he can have entire charge of the infant's feeding from the start, it is exceptional for him to encounter any real difficulty in carrying out the infant's nutrition. This, he thinks, is due as much to the first steps as to his constant subsequent management of the case. Even a brief survey of the subject will reveal certain undeniable facts. The nutrition of the infant, as Chapin points out, should be divided into the preplacental, the placental and the mammary stages, during all of which the infant should be regarded as attached to the mother. At the beginning of the mammary stage the infant's stomach is only rudimentary. The newborn infant is undoubtedly best adapted to its own mother's milk. The nearest approach to this is the milk of another woman, but when we attempt to make use of cow's milk we are at once dealing with a foreign substance, and no amount of modification will make it anything else. This can be well demonstrated by reference to a table published by Heubner.[1]

Time by which Weight is doubled.	Analyses of Milk.			
Days.	Proteid.	Ash.	Lime.	Phosphoric Acid.
Human..... 180	1.0	0.2	0.032	0.047
Horse 60	2.0	0.4	0.124	0.131
Calf 47	3.5	0.7	0.189	0.197
Goat 19	4.7	0.8	0.210	0.322
Pig 18	5.9	..	....	....
Sheep 10	6.5	0.9	0.272	0.412
Cat 9.0	7.0	1.0	....	....
Dog 8.0	7.3	1.3	0.45	0.493
Rabbit 7	10.4	2.4	0.891	0.996

It would seem that the rapidity of growth is in direct proportion to the amount of proteid in the milk, and that the natural process of growth in the human species is very slow. The coincidence of a low proteid and a slow growth can mean only that the infant's powers of digestion are unsuited to a stronger, tougher nutriment, and are but slowly developed. Additional proof that growth in the infant is intended to be slow is found in the fact that the proteid of the mother's milk, low as it is, is yet sufficient for the needs of the infant, not only during the whole of the period, during which the weight is doubled—a period varying from four to seven months—but also for a longer time until weaning may be demanded.

The physical characteristics of human milk and cow's milk, when they are introduced into the infant's stomach, have been so often stated as to make repetition unnecessary. No one can overlook the fact that the mechanical action of the curd of cow's milk, apart from the complicated question of its chemical properties, is fundamentally different from the action of the curd of human milk, and, as Chapin well expresses it, this points strongly to the fact that the stomach of each species depends largely for its development on the stimulus afforded by the proteid content of its own proper milk. An absolute liquid diet offers no such stimulus, but in the case of the infant the soft flocculent curd is evidently sufficient for the purpose, which, in the case of the calf, demands coarser excitation for its accomplishment. Of the so-called "vital characteristics" of milk by which we understand that each milk shall be best suited to the young for which Nature intended it, too little is definitely known to make discussion profitable. Statistics are so overwhelming in proof of the fact that the breast-fed infant far surpasses the artificially fed infant in expectancy of life that further comment is unnecessary. The causes for the high mortality of artificially fed infants are undoubtedly the disturbances which may properly be classified as gastrointestinal, originating in the inability of the infant to digest its food. It is impossible to compute the part

*Read before West Philadelphia Branch of County Medical Society, June, 1905.

1. Ziet. für Diat. u. Physik. Therapie, vol. iii, p. 1, 1899. Abst. from Archives of Pediatrics.

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played by bacteria in this high mortality, but the underlying cause has probably much to do with physiologico-chemical conditions. Of these ills innumerable pages have been written; and since Rotch first drew attention to the science of percentage feeding it would seem that, from the mechanical standpoint, we have almost exhausted the possibilities of the modification of milk to suit the varying powers of the infant's digestion. Sufficient stress, however, has not been laid on the importance of the gradual education of the newborn infant's digestive apparatus to accustom it to the foreign material which it is so often called on to receive.

This problem of the artificial nourishment of the infant often confronts us at the start; or the maternal secretion may suffice for a few days or weeks, but soon has to be aided and, later, substituted, by some hand-made mixture. At any period in infancy such substitution of an unnatural for a natural food requires a gradation in the steps of the process. Such a gradation is exceedingly important in the case of the newborn infant. Let us take a concrete example of what often happens in a case in which the nurse is untrained. The mother's supply of milk fails within the first week of the puerperium. The nurse on her own initiative adopts her favorite method of feeding, usually cow's milk and water in equal parts; or perhaps a mixture made with condensed milk. In the haste of the moment and the security engendered by the fact that millions of infants have survived haphazard methods of feeding, the physician may at once dismiss the subject from his mind. Provided there are no undeniably bad results, these feedings are continued at the discretion of the nurse or mother. If this discretion be tempered with common sense or useful experience, all may be well, or the infant may belong to the fortunate class which can digest anything. Frequently, however, the sequence of events will be somewhat as follows: The infant soon begins to exhibit signs of indigestion and is designated by the nurse as a colicky baby. The frequent use of carminatives, with or without opium; mainly, however, the fact that the infant sleeps most of its first days and therefore takes little of the indigestible mixture, will probably tide the case safely over the two or three weeks usually allotted to the puerperium. The baby has grown, the mother is satisfied, the physician is busy and unsuspecting, and the nurse departs more than ever convinced of her ability to feed the newborn. In the absence of any training to the contrary, she is certainly not blameworthy.

Within a few weeks or less the signs of disturbed digestion become too marked to be overlooked. Then will begin the endless succession of infant foods, or the physician will be called. Careful questioning at this time will elicit the fact that the departure from the normal condition of digestion has been present almost from the start. The disturbances may have been ascribed to various recent exciting causes, while the underlying predisposing cause of an unsuitable diet at the outset has been overlooked. Depending on the length of time the mother has persisted in her efforts to feed the child will be its condition when the physician's advice is first asked. There is apt to be fretfulness, if not actual crying. The child is restless, constantly craving, and usually constantly receiving, its nourishment. The degree of disturbance as evidenced by the gastrointestinal symptoms varies, but the stools almost invariably give evidence of indigestion, if not of actual enteritis. There is more or less atrophy, the muscles are flabby, and, in a very large proportion of protracted cases, the signs of rickets are present in a well-marked degree.

The outcome in such a case is uncertain and will depend largely on the child's surroundings and the care it receives. The infant is doubly exposed to the danger of progressive atrophy, of intercurrent disease, especially bronchopneumonia, the acute gastroenteric disorders arising from infected milk or other unsuitable dietary, and the exhaustion incident to the heated term which predisposes to these disorders. Even with the most careful and painstaking treatment, it may be weeks or months before the stools present a normal appearance.

Such types are constantly seen in dispensary practice, although the number among the more fortunate classes is by no means small. The ultimate fate of many of these infants who recover after a protracted attack of indigestion is open to conjecture, as they often pass out of the experience of the individual physician. An interesting field for statistics here presents itself. It is reasonable to suppose that they are at least handicapped in the race of life, even though all traces of their former ill health shall have disappeared within a few years.

The disadvantages of such protracted attacks of indigestion are obvious, but the difficulty of correcting them is equally so. Apart from cases of congenital disease or the ills attendant on the pauperism of many of the city's poor, many of these difficulties may be avoided by proper care at the start of the infant's feeding. It may also be well to call attention to the fact that by no means all the maternal milk secreted is fit for the infants who receive it. Analyses of specimens of milk in many cases in which the maternal supply fails in the first few months of the infant's life will show disturbances in the normal proportions of the ingredients of the milk, which may easily prove to be the starting point of digestive disturbances even before artificial feeding has been attempted. Persistence of indigestion in the case of an infant fed solely on breast milk, therefore, should demand an investigation of that milk.

As is often the case, it is easier to point the moral than to explain how the necessity for it may be avoided. The difficulty for the general practitioner lies in (*a*) the time it takes to instruct the mother, (*b*) the failure of the mother to co-operate, and (*c*) the difficulty in obtaining milk of the necessary purity and of known strength. For the fortunate few who can command laboratory milk, these objections are reduced to a minimum. While there are many useful formulæ for the preparation of milk mixtures they are difficult to memorize or to apply. Into the present discussion these objections do not enter, as the use of scientifically accurate percentage modifications is demanded chiefly as a curative, not necessarily as a preventive measure. To take up, first, the question of the milk supply, it may be stated that unless cream of known composition and of unimpeachable purity can be obtained, nothing can exceed the usefulness of top milk, i. e., the milk and cream which are removed from the top of a quart bottle of milk on which the cream has thoroughly "raised." If it is possible to use certified milk of a definite fat percentage, excellent results can be obtained in the vast majority of cases. The expense of a single quart of certified milk daily, an amount sufficient during the greater part of infancy, is not so prohibitive as it often seems. So much of the ordinary market milk is now provided in jars bottled at the dairy under fairly good conditions of hygiene that, even without the aid of pasteurization, good

results may usually be obtained with it. Whenever it is feasible, the personal investigation by the physician of one or more dairies will often enable him to recommend a useful product at market rates. The methods of obtaining the desired percentages in the milk mixtures can be made extremely simple, so as to demand no more time than ordinary prescription writing. The only requirement is the knowledge of the percentages of ingredients in varying amounts of top milk.

According to the analyses published by Holt, the upper portions of quart bottles of good average milk which have stood undisturbed for at least eight hours after bottling, will contain approximately the following percentages:

HOLT'S TABLE.

	Fat.	Sugar.	Proteid.
Upper 16 oz. or 1/2 bottle.....	7	4.40	3.40
Upper 11 oz. or 1/3 bottle.....	10	4.30	3.30
Upper 8 oz. or 1/4 bottle.....	12	4.15	3.25
Upper 6 oz. or 1/5 bottle.....	14	4.05	3.20

With Mr. Walter Cuthbert in 1902 and 1904 I made numerous tests of top milk from bottles of a milk which receives the certificate of the Philadelphia Pediatric Society.

Fat in Whole Milk.	Fat in Top of Milk.		
	Min. Fat. Per ct.	Max. Fat. Per ct.	Average Fat. Per ct.
3 to 4.3 per cent.	9.7	10.8	10.0 In 12 oz. of top milk.
4.1 to 4.4 per cent.	12.6	13.2	12.9 In 12 oz. of top milk.
4.1 to 4.5 per cent.	8.4	10.2	9.63 In 14 oz. of top milk.
4.1 to 4.5 per cent.	9.9	12.5	11.57 In 14 oz. of top milk.
4.2 to 4.5 per cent.	7.4	9.0	8.16 In 16 oz. of top milk.
4.7 to 5.5 per cent.	8.5	10.8	9.04 In 16 oz. of top milk.

While the quantities of top milk taken for most of our examinations did not correspond with those given by Holt, our test of a whole milk of a fat percentage of 4.3 gave 7.4 per cent. of fat in the upper 16 ounces—a result which is sufficiently close to prove his point when we consider that the average milk to which he alludes probably ran as much below as it did above 4 per cent. of fat. In an isolated test of an average market milk of a fat percentage of 3.8, we found 12.6 per cent. fat in the upper eight ounces, which again substantiates Holt's figures.

The great variability of the fat percentage in top milk is well known. Even the advocates of cream-milk mixtures, however, can not claim immunity from this variation, for this ingredient fat is notoriously uncertain. The dilution of top milk necessary for young infants will materially reduce this variation in the fat content, and the healthy infant will usually experience no difficulty with it.

It is with the proteid, however, that there is need of greater accuracy, and with this ingredient of milk we fortunately find much less liability to variation than is the case with the fat. In many of the analyses of former years the proportion of proteid in cow's milk was always given at approximately 4 per cent. More recent works have stated that this percentage is nearer 3.5 than 4 per cent.

The sugar in cow's milk will approximately equal 4.5 per cent. In dealing with top milk, while it must be remembered that the percentage of proteid and sugar will decrease as the percentage of fat increases (see Holt's table), for practical purposes allowance need only be made for this when we use 13 or 16 per cent. cream. For whole milk, skimmed milk, 7 per cent. cream and 10 per cent. cream, the sugar may be calculated as 4.5 per cent. and the proteid as 3.5 per cent.

Of equal importance with the strength of the milk is the knowledge of certain other data in regard to the actual feeding of the infant. The amount and frequency of the meals, as well as the strength of the mixture, are usually left to the nurse or to the mother, whereas the former count quite as much toward success as the latter. When an infant is to be taught to take cow's milk it is as easy to accustom it to the proper amount and to the proper interval between feedings as to the milk mixture itself. The rules for the strength of the mixture, the total amount of the mixture and the frequency of the meals are necessarily somewhat arbitrary and are subject to frequent revision. The proper interval should be more strictly adhered to than the amount or strength of the mixture. For example: A three-months-old infant may be taking three ounces of a 3-6-1 mixture every two and one-half hours, but it may show by evident dissatisfaction after each meal and by failure to gain in weight that both the amount and strength of the mixture need to be increased, while the interval may usually be bridged over with plain drinking water or barley water given in the bottle. Only in exceptional instances, such as illness, should the interval be lessened. The number of feedings will depend largely on the initial training of the child and on the appropriateness of the mixture to its nutritional needs. Much depends on the manner of training, and for the sake of the mother as well as the child, it would be well at least to attempt a strict adherence to rule. During the first two months of the child's life two night feedings will probably be necessary; from the third to the fifth year one night feeding should be sufficient. Often before the fifth month and always after it night feedings should be abolished; that is to say, any meal taken later than 9 p. m. or earlier than 6 a. m., except in cases of illness when the amount of nourishment taken by day may be insufficient to tide the child over the nine-hour period. In the case of the healthy infant, however, there can be no more reason for dispensing with a proper interval of rest for the digestive function than there is in the adult. Frequently will it be found that the stopping of an injudicious prolongation of the habit of night feeding will at once control an indigestion which no amount of care expended on the day feeding has checked. The number of day feedings will obviously depend also on the sleeping propensities of the child, as will the intervals between the feedings. Persistent habits of sleeping by day and waking at night can only be broken by arousing the infant at the proper intervals.

As an aid to memory, the following condensation of facts may be advocated: During the first two months of life the interval between feedings should be two hours; during the second two months the interval should be two and one-half hours. After the fourth month the interval should be three hours. The amount of mixture to be given at different ages may be stated approximately as follows: First week, 1 ounce; second and third weeks, 1½ ounces; fourth week, 2 ounces. From the second to the seventh month, inclusive, the amount of mixture in ounces varies from the number of the month to one in advance of it; for example, third month, from 3 to 4 ounces; fifth month, from 5 to 6 ounces, etc. Rarely will it be advisable or necessary to administer more than 8 ounces at one feeding. Finally, there should be considered the strength of the milk mixture.

It may be assumed that the average healthy infant can digest whole cow's milk at the age of from 8 to 12 months. Infants above the normal may, and certainly do, accomplish this at an earlier age, but the risk of such forcing is not justified by the results, and, indeed, is often disastrous. For certain infants, the digestion of whole milk at any time during the first two years of life may prove to be a hopeless attainment. For such the limits of top-milk mixtures and of this discussion are alike insufficient. For the average, however, the end to be attained in milk modification is a 4-4.5—3.5 basis (whole milk) at the age of from 8 to 12 months.

The first three months are the crucial period and the mistake most commonly made is when the artificial feeding is begun. During this period the strength of the first milk mixtures should be as follows: Fat, 1.5 to 2 per cent.; sugar, from 4 to 5 per cent.; proteid, from 0.5 to 0.75 per cent. The strength of this mixture must naturally be increased quite rapidly at first as compared with later mixtures. By the third or fourth month, the fat should have been increased to from 2.5 to 3.5 per cent. sugar to 6 per cent. and the proteid to from 1.5 to 2.5 per cent. From the eighth to the twelfth month the strength of whole milk should have been reached.

The cardinal points for guidance in increasing the strength of the mixtures are the condition of the child's digestion, the gain in weight and what may be called the "subjective needs" of the child itself. The latter, that is, the hunger of the child may safely be consulted provided the digestive function is not impaired. The spurious hunger of infants with chronic gastroenteric disorders must not be confounded with the healthy appetite.

In this connection it is important to remember that the good or bad effects of any given formula must not be judged too hastily. Except in the presence of an active diarrhea or the result of a purgative, the appearance of a stool gives evidence of a meal taken at least twenty-four hours before, or even longer. It is also important to remember that no single stool, but a succession of stools, is necessary to prove a point. A change in the milk formula must, therefore, not be made too hastily.

The importance of weighing the child can safely be reiterated. Stated roughly, a healthy child should gain from 5 to 7 ounces a week during the first four months of life, from 3 to 5 ounces during the fifth, sixth and seventh months, and from 2 to 4 ounces from the eighth to the twelfth month. Daily weighings are apt to be misleading. At first bi-weekly, and later weekly weighings are sufficient. The clothing factor must be the same at each observation or else strict allowance must be made for it; weighings should be made as nearly as possible at corresponding times, both as to the hour of the day and the interval that has elapsed since the last feeding.

As has been said, one of the greatest difficulties in the application of our knowledge of infant feeding lies in the time required to expound the essentials of this knowledge in an intelligible form to the mother. The knowledge of the strength of the top milks to be used is requisite. To repeat, the upper sixteen ounces of average milk (4 per cent. fat), contains, approximately, 7 per cent. fat; the upper 11 ounces, 10 per cent. fat; the upper 8 ounces, 13 per cent. fat, and the upper 6 ounces, 16 per cent. fat.

Speaking of the different top milks as 16 per cent. cream, 13 per cent. cream, 10 per cent. cream, etc., it is interesting to note that the proportion of fat to proteid in 7 per cent. cream is approximately, as 2 to 1; in 10 per cent. cream as 3 to 1; in 13 per cent. cream as 4 to 1, and in 16 per cent. cream as 5 to 1. In whole milk, which contains 4 per cent. fat, the proportion is approximately 1 to 1.

The determination of the proportion of ingredients of a mixture to be made with the above-described top milks becomes merely a matter of simple division. For example, diluting 7 per cent. cream with equal parts of water will give us a mixture of half the strength or fat 3.5 per cent,. sugar 2.25 per cent., proteid 1.75 per cent. One part of 7 per cent. cream with two parts of diluent will yield a mixture of one-third strength, or fat 2.3 per cent., sugar 1.50 per cent., proteid 1.1 per cent. In both of these instances the proportion of fat to proteid is as 2 to 1. The same dilutions of 10 per cent. cream with one or two parts of water would give, respectively, 5 per cent. and 3.3 per cent. of fat, the sugar and proteid remaining the same. In like manner, a number of mixtures may be devised, working only on the few elemental figures given. Refinements in the method may be introduced with the use of skimmed milk or that portion of the contents of the quart bottle which is left after all the cream has been removed with the top milk. Skimmed milk is practically fat free, the sugar and proteid being approximately the same as in top milk.

It remains to consider the question of the sugar. The amount of this ingredient necessary to bring the proportion up to the amount required for the proper nourishment of the infant is from 5 to 7 per cent., and to obtain this we need only employ a 3, 4 or 5 per cent. sugar solution as a diluent instead of plain water. A 5 per cent. sugar solution obviously would consist of 1 ounce of sugar with 20 ounces of water, or fractions thereof. A 4 per cent. sugar solution consists of 1 ounce of sugar in 25 ounces of water; a 3 per cent. of sugar solution consists of 1 ounce of sugar in 33 ounces of water. Three level tablespoonsful of lactose approximately will equal 1 ounce. With these data at our command we may best demonstrate the method of using them by citing a concrete instance. Suppose an infant of normal development is to be fed artificially at the end of the first week of its life. The proportion of fat in the mixture should be about 1.5 per cent., sugar 4 per cent., and the proteid .75 per cent. The amount of the mixture to be given at each feeding should be about 1 ounce, and there should be prepared from ten to twelve feedings for the twenty-four hours' consumption.

For the preparation of the mixture, beside the quart bottle of milk on which the cream has been left undisturbed, there will be needed a supply of lactose or milk sugar, a six or eight-ounce graduate or other receptacle of known capacity, a supply of boiled water, a quart fruit jar and a bowl for mixing. With care it is possible to pour off the upper 10 to 16 ounces of a quart bottle of milk in such a manner as to secure practically all the cream, but more desirable, and for smaller quantities indispensable, is the 1-ounce milk dipper, of which there are several designs on the market. To obviate the possible danger of the milk dipper it should be scalded immediately after, as well as before, its use. All the other utensils should likewise be scalded before being used.

In the case above noted, our instructions to the nurse or mother would be given in writing as follows:

Remove the upper sixteen ounces of top milk. Dissolve one

level tablespoonful of milk sugar in eleven ounces of boiled water. Put three ounces of top milk and nine ounces of sugar water into a scalded jar, cover and set on ice. Feed one ounce of this mixture every two hours.

In explanation of this, we must remember that the desired feeding for twenty-four hours must consist of 12 ounces of mixture containing approximately 1.50 per cent. fat, 4 per cent. sugar and 0.75 per cent. proteid. The fat-proteid proportion in this being 2 to 1, we may use 7 per cent. cream (upper 16 ounces), which contains 7 per cent. fat, 4.5 per cent. sugar and 3.5 per cent. proteid. A dilution of this four times, or 3 ounces of 7 per cent. cream and 9 ounces of diluent, obviously will give us 1.75 per cent. fat, 1.12 per cent. sugar and 0.87 per cent. proteid; the use of 3 per cent. sugar solution as the diluent will supply the deficiency of sugar.

When we desire to increase the strength of this mixture it may be done conveniently by simply shifting the proportion of cream and sugar solution. For example, three parts of cream and nine parts of diluent (one in four) equals 1.75 per cent. fat, 1.12 per cent. sugar and 0.87 per cent. proteid. Four parts of cream and eight parts of diluent (one in three) equals 2.30 per cent. fat, 1.50 per cent. sugar and 1.16 proteid. By increasing the cream half an ounce (one tablespoonful) at a time and decreasing the sugar solution by the same amount, we would gradually pass from a 1.75, 1.12, 0.87 basis to a 2.33, 1.50, 1.16 basis. The fat-proteid proportion remains the same. When we deal with larger quantities of mixture the change can be made more gradually. For example, in the second week of life the total quantity of mixture becomes 18 ounces instead of 12 (1½ ounces at a feeding). One part of cream and three parts of diluent becomes, therefore, 4½ ounces of cream and 13½ ounces of sugar solution (fat 1.75 per cent. sugar, 1.12 per cent. proteid, 0.87 per cent.). Six ounces of cream and 12 ounces of sugar solution (one in three) would give us 2.33 per cent. 1.50 per cent. sugar and 1.16 per cent. proteid. By increasing the cream half an ounce at a time and decreasing the sugar solution by the same amount we would pass during the second and third week to the latter strength. By the fourth week, when 2 ounces are generally needed at a feeding, the total quantity of mixture becomes 24 ounces instead of 18. Eight ounces of cream and 16 ounces of sugar solution (one in three) still gives us the 2.33, 1.50, 1.16 basis, which will probably be sufficient for the second month. By the third month, when the interval between feedings will be increased to two and a half hours with 3 ounces at a feeding, the total feedings will not exceed ten; and 30 ounces of mixture will be sufficient. Ten ounces of cream and 20 ounces of sugar solution (one in three) may then be gradually increased, one-half ounce at a time, to 15 ounces each of cream and sugar solution, which would represent 3.5 per cent. fat, 2.25 per cent. sugar and 1.75 per cent. proteid. As an example of some of the formulæ which can be obtained with milk and top milk the table in the preceding column may be cited.

	Fat.	Sugar.	Proteid.
One part of 4 per cent. milk with one part of diluent (1 in 2)	2.00	2.75	1.75
One part of 5 per cent milk with one part of diluent (1 in 2)	2.50	2.75	1.75
One part of 7 per cent. cream with one part of diluent (1 in 2)	2.50	2.75	1.75
One part of 4 per cent. milk with two parts of diluent (1 in 3)	1.33	1.50	1.16
One part of 5 per cent. milk with two parts of diluent (1 in 3)	1.66	1.50	1.16
One part of 7 per cent cream with two parts of diluent (1 in 3)	2.33	1.50	1.16
One part of 10 per cent cream with two parts of diluent (1 in 3)	3.33	1.50	1.16
One part of 4 per cent. milk with three parts of diluent (1 in 4)	1.00	1.16	.87
One part of 5 per cent. milk with three parts of diluent (1 in 4)	1/25	1.16	.87
One part of 7 per cent. cream with three parts of diluent (1 in 4)	1/75	1.16	.87
One part of 10 per cent. cream with three parts of diluent (1 in 4)	2.50	1.16	.87
One part of 13 per cent. cream in two parts of diluent (1 in 3)	4.33	1.38	1.08
One part of 10 per cent. cream, one part of skimmed milk, one part of diluent (1/3 fat, 2/3 sugar and proteid)	3.30	3.00	2.33
One part of 13 per cent. cream, one part of skimmed milk, one part of diluent (1/3 fat, 2/3 sugar and proteid)	4.30	3.00	2.33
One part of 10 per cent. cream, two parts of skimmed milk (1/3 fat, sugar and proteid same as in milk.) (None.)	3.9	4.50	3.50

The mother must be instructed to thoroughly mix the contents of the jar by shaking before pouring out the feeding and to warm the latter by standing the feeding bottle in hot water before administering the milk. The preparation of all the bottles necessary for the day's feeding at the time of making the mixture is distinctly desirable, but can only be advocated in the case of enthusiastic co-operation on the part of the mother.

If the foregoing instructions seem complicated at first reading a few moment's reflection will surely prove the reverse to be true. The data to be memorized are the fundamental strengths of milk and certain creams; the rest is simple division.

3942 Chestnut Street.

IMPROVED OPERATION FOR HYPOSPADIAS INVOLVING THE GLANS AND PENILE PORTION OF THE URETHRA.

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SAN FRANCISCO.

Hypospadias is a condition due to want of fusion of the lips of the urogenital sinus which go to form the urethra and varies in degree from an unduly large meatus to a completely cleft urethra. This deformity, unlike the somewhat similar condition of epispadias, never extends into the bladder, and incontinence of urine is, therefore, not one of its complications.

In hypospadias affecting the glans the inconvenience may be so slight as to be almost unnoticeable, but it increases the further back the cleft extends. There are two troubles in connection with hypospadias: In the first place the urethral opening is always unduly narrow, sometimes extremely so, and there is, therefore, a certain amount of back pressure from which serious results may follow. The second trouble is that the penis is always curved downward when the cleft in the urethra extends any distance back, and this incurvation is greater the further back the cleft extends. Attempts to straighten the organ are resisted by a fibrous band or bands corresponding to the remains of the urogenital groove and lying in the position of the normal urethral roof. This incurvation produces much inconvenience, as the urine is projected against the down-curved organ, the stream is broken up and the patient may be constantly wetted. In children this often gives rise to troublesome eczema in addition to the offensive ammoniacal decomposition of the urine on the clothes. When the urethral orifice is situated further back than the glans, coitus is often practically impossible, as proper erection is prevented by the incurvation. When the cleft extends still further back and is associated with a cleft scrotum, the condition closely resembles hermaphrodism and the rudimentary organ is quite useless.

The cases met with may be divided into three groups:

(1) Those in which the fissure is limited to the glans; (2) those in which the cleft is in the penile portion and the orifice of the urethra opens anteriorly to the scrotum, and (3) those in which the scrotum is cleft and the urine issues from an opening in the perineum. The first two groups of hypospadias are considered here. I have reviewed the articles of Cheyne and Burgland, Duplay, R. Hamilton, C. Beck and others on this subject, but do not intend to review their methods. I wish, however, to acknowledge many valuable points taken from these writers and used in the construction of this paper.

Treatment is of much avail when the urethral orifice is in front of the scrotum. When the hypospadias simply consists of an unduly large meatus it is often unnecessary to interfere at all. The only point of importance is to make sure that there is no constriction at the orifice of the urethra; should one exist it must be dilated or slit up in the manner used for stricture of the meatus.

When, however, the condition is one either of complete hypospadias of the glans or of a cleft urethra anywhere between the glans and the scrotum, it is necessary

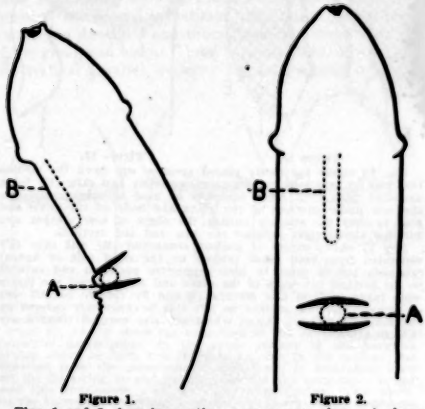

Figure 1. Figure 2.

Figs. 1 and 2 show incurvation, prepuce over glans. A shows urinary orifice in body of penis. B shows short blind groove in body back of glans penis, in particular case reported.

to repair the urethral canal. The best time to operate seems to be from 6 to 12 years of age. By that time the patient is amenable to discipline, and there is also plenty of time for the genital organs to develop after the operation, and, moreover, there is not so much likelihood of trouble from erections as there is later. Erections are very likely to be fatal to the success of such an operation.

METHOD OF TREATMENT.

Several points have to be attended to in treating a case of hypospadias. The curvature of the penis must be remedied; the natural orifice of the urethra must be made of normal size, and a fresh urethra must be made from this orifice to the end of the glans. The satisfactory way of fulfilling these indications is: 1. To perform an external perineal urethrotomy and insert a large tube into the bladder, thus draining away every drop of urine so that the plastic operations which are done later will heal primarily

For this the patient is anesthetized and a Syme's staff is introduced. The staff is passed through the urethra into the bladder, the handle is intrusted to an assistant, and the patient is brought down to the end of the table and put in the lithotomy position. The assistant should hold the staff perfectly vertical and pull the scrotum out of the way. The surgeon makes an inch and one-half median incision about an inch in front of the anus. After the superficial structures have been divided, a forefinger, introduced into the wound, feels for the staff in the urethra. Some blunt dissection and a few touches of the knife expose the urethra, the groove in the narrow

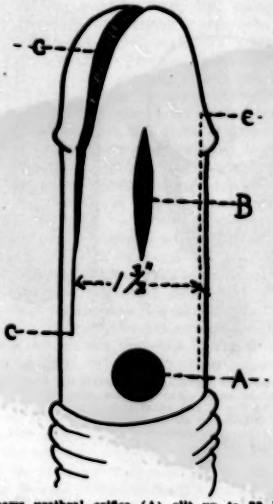

Fig. 3 shows urethral orifice (A) slit up to 32 French separated from its surroundings and edges trimmed evenly. B shows blind groove as in Figs. 1 and 2, but with prepuce well retracted. C shows incisions made for the formation of the new urethra.

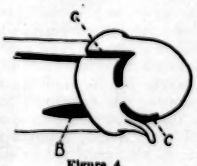

Figure 4.

Figure 5.

Fig. 4 shows incisions made and flaps of mucous membrane and skin being dissected up, for new urethra in the glans and body of the penis. C shows raw surface of the glans after lifting flaps. Fig. 5 is the same as Fig. 4, except that dotted lines (D) show flaps brought edge to edge.

portion is felt for, and the point of the knife is slipped along the finger until its point perforates the urethra and engages in the groove. The knife is now made to cut the urethra and an opening is made just sufficient to introduce a 32 French soft rubber catheter. The handle of the staff may now be depressed and the point of the instrument pushed on into the bladder. The staff is withdrawn and a 32 rubber catheter is passed through the wound into the bladder and held there by an adjustable tube holder.

It is sometimes difficult to pass the catheter into the bladder, and the easiest plan to insure the instrument passing readily is to slip a Teale's gorget along the groove in the staff before the latter is withdrawn. The gorget passes from the perineal wound into the bladder and serves as a guide along which the point of the catheter is directed. Sometimes the caliber of the urethra is small at the neck of the bladder and has to be dilated to the proper size. This is readily done with a small uterine dilator or a rubber-covered Kohlman's dilator when the tube, held in place with a tube holder, is introduced and the bladder properly drained. The wound is dusted with odorless iodoform, and dressings are applied and kept in position by a T bandage.

The patient's legs are now extended and the following steps of the operation on the glans and penile portions of the urethra are done, one after the other, under the same anesthesia, viz.: Correcting the incurvation; enlarging and freeing the old meatus; making a new urethra extending from the end of the glans to the old meatus in the body (Figs. 3, 4, 5 and 6); joining by absorbable sutures the new and the old urethral canals (Fig. 7); closing and covering over the raw surfaces on the under surface of the glans and the body of the penis by taking flaps from the rudimentary hood of the prepuce which covers the anterior surface of the glans and body (Figs. 8, 9, 10, 11 and 12); correcting the deformity of the convexity or anterior surface of the body by

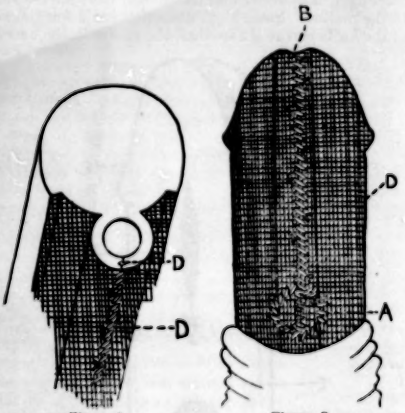

Figure 6.

Figure 7.

Fig. 6 shows the edges of the flaps taken from the glans and body sutured to each other to form new urethra (D). Fig. 7 shows same as Fig. 6, and anastomosis made between the new and old urethral orifices. B shows the end of the new urethra in glans penis. D shows raw surfaces of glans and body whence the flaps have been taken.

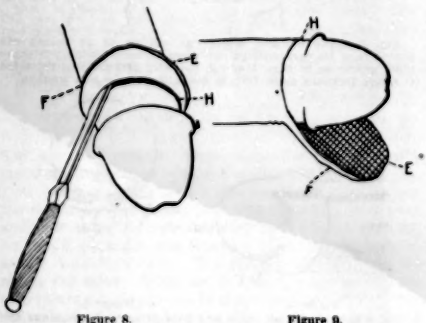

Figure 8.

Figure 9.

Fig. 8 shows separation of prepucial hood (F), which consists of two layers, skin (E) and mucous membrane (H). Fig. 9 shows the prepucial hood brought down underneath the glans by carrying the glans through the transverse opening in the prepuce. E shows layer of mucous membrane. F shows layer of skin.

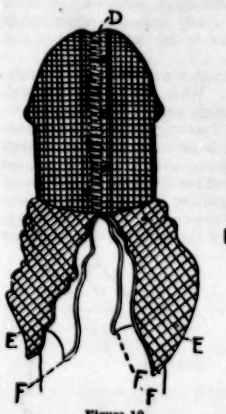

Figure 10.

Figure 11.

Fig. 10 shows the newly placed prepuce, cut down the median line and its layers of mucous membrane (E) and skin (F) being dissected from each other ready to be used to cover completely the raw under surfaces of the glans and body of the penis and also to bury the stitches uniting the edges of new urethra and forming anastomosis between the new and old urethras.

Fig. 11 shows layers of mucous membrane (E) and skin (F) separated from each other (shown on the right side of figure) trimmed, put in place in their respective positions and sutured to the vertical cut edges of the glans and body whence the layers were taken to form new urethra (E and F) (shown on left side of figure). The raw surface on left side is completely covered by the mucous and skin layers which are also sutured transversely to each other.

Fig. 12 shows the layers of mucous membrane and skin as in Fig. 11, sutured in their new positions, to the vertical edges, transversely to each other, the cut down the median line sutured, and the skin flaps at their lower parts sutured transversely to the skin of the body of the penis, thus completely covering all raw surfaces on the under aspect of the glans and body of the penis. While the cut down the median line was made in this case, usually this should not be done.

making a suitable vertical incision backward from the middle of the incision made to utilize the hood; bringing forward this vertical incision at its angle and suturing it in the same line and continuous with the prepucial or transverse incision, thus eliminating the convexity by shortening the antero-posterior measurement and overcoming the existing lateral constriction by increasing the transverse measurement (Figs. 13, 14 and 15). These steps are, in detail, as follows:

2. To remedy the incurvation (Figs. 1, 2, 3, 13, 14 and 15), the prepuce is drawn back and the urinary orifice in the body usually shows it much narrowed. This is slit up to admit a 33 French sound, and the urethra is dissected from its surroundings, thereby usually exposing the ends of the corpora cavernosa for an inch or so. All constricting fibrous bands are divided by transverse incisions so as thoroughly to straighten the organ (Fig. 3). Care should be taken not to injure the corpora, as it produces free bleeding.

3. Formation of a new urethra in the glans and body and its anastomosis with the dissected up old urethral orifice (Figs. 3, 4, 5, 6 and 7). A 33 French sound is introduced into the slit urinary orifice as a guide, and flaps 1⅜ inches wide of mucous membrane and submucous tissues and sometimes skin and subcutaneous tissues are dissected and taken from the under surface of the glans and body. These flaps are taken by making two vertical parallel incisions 1⅜ inches apart and extending from the end of the glans backward to the level of the dissected urethral orifice. The flaps are dissected loose so that they can be made to meet in the median line without tension over the sound. At each end short transverse incisions are made so as to enable the flaps to be raised. The edges of the flaps are united to each other in the middle line with fine continuous catgut sutures, using the sound as a guide in sewing. These stitches are inserted about eight to an inch and about every fourth is tied with a reef knot. The old urethra is dissected backward for about an inch, and an anastomosis is made between the ends of the new and the old urethras, using fine catgut sutures. Thus a complete canal is formed and in most cases is lined with mucous membrane. In other cases, where the urethra opens further back on the body in front of or shortly in front of the scrotum, skin flaps have to be utilized and substituted to restore the urethral canal in this region. These skin flaps are continuous with the mucous membrane flaps and are in like manner dissected and united in median line to each other so that skin forms the urethral canal where mucous membrane can not be obtained. These skin flaps must be hairless, as otherwise hairs grow in the urethra and cause trouble from their mere presence and the deposit on them of concretions from the urine. When hairs are present on these skin flaps, they should be permanently removed with the electric needle before the operation is undertaken. This must be done to insure satisfactory results, and applies equally in the somewhat similar plastic operations for epispadias (Figs. 3, 4 ,5, 6 and 7).

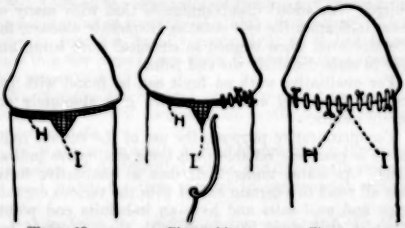

Figure 13. Figure 14. Figure 15.

Figs. 13, 14, 15 show the correction of the convexity and the transverse constrictions on the upper surface of the body by making about an inch long vertical incision in the median line backward from the transverse incision made in separating hood and the dissecting up and bringing forward and suturing it in the same line continuous with the transverse incision. This shortens the antero posterior measurements and increases the transverse measurement.

4. To cover over the raw surfaces on the glans and body, the hood is utilized (Figs. 8, 9, 10, 11 and 12). The prepuce is put on the stretch and enough of its mucous membrane and skin layers is measured to cover these raw surfaces. A knife is made to cut transversely through both layers of the prepuce about half an inch back of the corona. The incision is enlarged laterally, separating it from the penis for about three-fifths of its extent (Fig. 8). This leaves a transverse opening in the prepuce through which the glans is passed so that the prepuce is brought down underneath to cover the raw area on the under surface of the glans and body (Fig. 9). The newly placed prepuce is cut down the median line and its layers of mucous membrane and skin are dissected from each other and, in turn, are trimmed as required, adjusted and sutured with fine catgut to the vertical cut edges of the glans and body so as to cover the raw surfaces accurately. The cut down the median line and the other edges are sutured accurately in their places with fine catgut stitches (Figs. 10, 11 and 12). It is usually not necessary to make the incision down the median line, but it was done in this case to trim up flaps and remove excess tissue. When the urethra opens in front of or near the scrotum, the raw surface in this area of the body is covered in by a flap taken from the adjacent anterior surface of the scrotum, and twisted on its axis and sutured accurately in place to the edges of the raw surface on this portion of the body so as to cover it completely. The scrotal wound being in loose tissues is readily sutured and thus closed without tension.

5. Correction of the hump or convexity and the transverse constriction on the anterior or upper surface of the body (Figs. 13, 14 and 15) is done by making an inch long vertical incision backward in the median line through the skin and subcutaneous tissues. This incision is at right angles to the transverse one made in separating the hood, and is made long enough so that when its angle is dissected it can be drawn forward and sutured in the same line and continuous with the stitching of the prepucial or transverse incision. This eliminates the convexity by diminishing the antero-posterior measurement of the penis and overcomes the existing lateral constriction in this region by increasing the transverse measurement to the normal condition.

ADVANTAGES OF THE METHOD.

This surgery takes a short time, healing is durable in two to four weeks, all the surgery is done at one sitting, the new canal retains its normal caliber, and its coverings remain in their new positions. The operation is simple, easy to follow, offers every advantage and is followed by the best results—better than any operation hitherto described. The preliminary external urethrotomy and drainage of the bladder allow the plastic surgery to heal without the least trouble. The time of healing in this operation as compared with the other methods is shortened from a year or more to a couple of weeks, it overcomes the necessity of operating in

stages as done heretofore, thus avoiding several anesthesias, operations, saving time for both patient and surgeon and avoiding subsequent small operations due to failures by the older methods. In the old methods contractions sometimes occur which render the steps of the operations futile. In this operation the dressings are kept clean and dry, there is no soiling with urine, and it is not necessary to pass any instruments; there is no tension on the wound, no skin grafting, and the method is applicable to all cases.

The deeper structures are sutured separately and accurately with burned absorbable stitches so as to get perfect union. This layer of sutures forms a firm barrier, while the superficial layer forms an additional aid to healing. The character of the buried suture materials is of importance. Sterilized fine catgut or tendon is the most suitable material for burned sutures. If the animal sutures are aseptic the healing is usually satisfactory. Silk or other non-absorbable materials or too heavily chromicized catgut or tendon should not be used as buried sutures, for, although the wounds may heal primarily, yet later sinus or sinuses form and keep discharging until the suture or suturings are thrown off or removed surgically. Such healing also interferes with nice clean union.

I first performed the operation as above described in San Francisco in November, 1904. The patient was about 30 years of age and was referred to me by Dr. Alfred Sander, of San Francisco. The urethra opened anteriorly to the scrotum, about 2½ inches back of the glans on the under surface of the body and a little to the left of the median line. There was a marked incurvation of the penis which produced considerable inconvenience on urinating as the stream was broken and the patient usually wetted. Coitus was practically impossible, as proper erection and entrance were prevented by the incurvations. Surgery was of great avail; healing was primary and durable; the incurvation was overcome; a new urethra was formed; the glandular and penile urethra were built and anastomosis was made between the ends of the new and old urethras; all raw surfaces were covered over; the operation was finished successfully at one sitting and gave perfect functional results. Examination made a couple of months after the operation showed everything satisfactory and canal of normal caliber. After the operation the patient was kept sufficiently under bromids and chloral to control erections, thus greatly favoring primary healing.

533 Sutter Street.

ERRORS IN THE DETERMINATION OF FREE HYDROCHLORIC ACID.*

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BALTIMORE.

Since Kuhne demonstrated the necessity for free hydrochloric acid in peptic digestion many methods have been devised for its detection and determination. This multiplicity of tests is a good indication that none of them exactly fills the requirements. The tests chiefly recommended for the detection of free hydrochloric acid may be divided into two classes, those depending on the change in color produced in some indicator, such as congo-red, dimethyl-amido-azo-benzol, benzopurpurin, tropeolin 00 and others of similar character, and those depending on the coloration produced by the acid on certain organic materials, such as the phloroglucin-vanillin test of Günzberg and the sugar-resorcin test of Boaz.

Against the class of indicators as a whole we may state that, almost without exception, they give a reaction with the organic acids when present in sufficient concentration, as can be easily shown by testing the solutions of the various organic acids with them, the intensity of the reaction varying, of course, with the strength of the acid employed and the degree of delicacy of the end point of the indicator employed. The effect of the acid salts on the indicators is best shown by attempting to titrate a solution of orthophosphoric acid with decinormal alkali, using any of the indicators. According to theory were they not affected by acid salts, the end point should be reached when exactly one-third of the calculated amount of alkali necessary to neutralize all the hydrogen has been added, a condition by no means fulfilled by any of the indicators with which I have experimented. The same test can also be applied by titrating decinormal sulphuric acid with any of these indicators. Were they actually not affected by an acid salt the amount of decinormal alkali required would be exactly half the amount of decinormal sulphuric acid taken, while the result of the experiment shows that an amount of alkali too great for the formation of the acid salt and not enough for the complete neutralization of the acid hydrogen is required. An added disadvantage is that with many of these indicators the end point is frequently obscure, the operator even when trained in chemical work being unable to state definitely the end point.

For qualitative work no fault can be found with the tests of Günzberg and Boaz which give absolutely accurate results.

For quantitative purposes the use of the various indicators is even less reliable than their qualitative indications. As stated under their uses as qualitative tests, they all react to a certain extent with the various organic acids and acid salts and have an indefinite end point. What is still more important with them is their behavior with the so-called combined hydrochloric acid, which is split up as the titration proceeds, the hydrochloric acid and the proteid with which it is combined undergoing a cleavage, the hydrochloric acid thus liberated being also titrated as free hydrochloric. The hydrochloric acid shown by these indicators must, therefore, be composed of the true free hydrochloric acid, varying proportions of the acid salts, and organic acids, and also of a portion of the hydrochloric acid which was originally in combination with the proteids of the gastric contents.

Titration with either the Boaz or Günzberg reagent as an outside indicator requires at least three titrations to insure accurate results, as a considerable amount of the fluid will be used in the preliminary tests outside. In addition they will also show probably at least a small part of the combined hydrochloric acid which splits up as the titration proceeds.

In several years' use of the various indicators I became convinced of the serious errors at times occurring in the ordinary titrations for free hydrochloric acid, titrations showing, for example, a hyperchlorhydria, while the results of treatment did not bear out the results of the titration. When in search of a method which would be free from these sources of error, my attention was called to a method worked out by Hoffmann at Ostwald's suggestion, which seemed to give promise

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

of better results, based, as it was, on an entirely different principle. Hoffmann's method was based on the effect of free hydrogen ions in saponifying methyl or ethyl acetate with the formation of free methyl or ethyl alcohol and acetic acid, the amount of the latter being proportional, other things being equal, to the amount of free hydrogen ion present, and readily titrated with decinormal alkali and an indicator such as phenolphthalein.

Considerable experience with this method has led me to make slight changes in it which, I think, give greater accuracy, though the actual difference is not great. As I carry out the method it may be described thus: Four small, clean, dry flasks are prepared and filled as follows:

No. 1. 10 c.c. gastric juice alone.

No. 2. 10 c.c. gastric juice and 2 c.c. of methyl acetate.

No. 3. 10 c.c. distilled water and 2 c.c. methyl acetate.

No. 4. 10 c.c. N/40 HCl and 2 c.c. methyl acetate.

These are tightly stoppered and placed for at least four hours in a hot air bath at a temperature of between 50 and 55 degrees Centigrade, not at any time exceeding 56, the boiling point of methyl acetate. At the end of at least four hours they are removed and the contents titrated with decinormal alkali, using phenolphthalein as an indicator to the first pink tinge.

No. 1 shows the original acidity plus any increase in the acidity due to standing at a high temperature. This increase does not usually occur, but, as it has taken place in a few cases in my work, it seems to me a reasonable precaution.

No. 2 shows the original acidity plus the increase in acidity due to the formation of acetic acid from the methyl acetate.

No. 3 shows the acetic acid produced by the saponifying action of the distilled water and the small amount of acid which is often present in commercial methyl acetate.

No. 4 shows the acidity of the original N/40 HCl plus the acetic acid liberated from the methyl acetate by the hydrochloric acid.

The calculations from these four determinations are simple and may be illustrated by an example from my notebook:

1. 10 c.c. of gastric juice allowed to stand for five hours at a temperature of 55 degrees required 6.2 c.c. of N/10 KOH to give the first pink tinge with phenolphthalein as an indicator.

2. 10 c.c. of gastric juice plus 2 c.c. of methyl acetate under exactly the same conditions required 64.9 c.c. N/10 KOH.

3. 10 c.c. distilled water plus 2 c.c. methyl acetate under the same conditions required 8.4 c.c. N/10 KOH.

4. 10 c.c. N/40 HCl plus 2 c.c. methyl acetate under the same conditions required 45.85 c.c. N/10 KOH.

5. 10 c.c. of the N/40 HCl, standardized by weighing the amount of silver chlorid produced, required 2.6 c.c. N/10 KOH to neutralize.

Hence:

64.90 — (6.2 + 8.4) = 50.3.
45.85 — (2.6 + 8.4) = 34.85.
34.85 : 50.3 :: 0.001 : x.
x = 0.1313 = per cent. of free HCl.

The sources of error in the Hoffmann method are probably only the following, excluding, of course, the allowable limits of error:

1. Very dilute solutions of hydrochloric acid will give results that are slightly too high on account of the greater dissociation of the acid in dilute solution.

2. The organic acids will also act on the methyl acetate to a slight extent, liberating acetic acid, but this will be at most a very slight error, as the relative strength of acetic acid to hydrochloric is as 0.004 to 1. Lactic acid is as 0.009 to 1.

3. Neutral salts increase slightly the saponifying power of water, the increase, however, falling within the limits of error.

A table is appended showing the results of a number of comparative tests in which a comparison was made between the results afforded by dimethyl and tropeolin 00, with the percentage error based on the saponification number as the correct one.

COMPARATIVE TABLE OF TESTS.*

	Dimethyl Titration.	Tropeolin oo. Titration.	Saponification.	Dimethyl Error %	Tropeolin oo. Error %
1.	0.1292	.....	0.1063	+21.54	.....
2.	0.1456	.....	0.1233	+18.08	.....
3.	0.05096	.....	0.02527	+50.18	.....
4.	0.1147	.....	0.1007	+13.90	.....
5.	0.3722	.....	0.3145	+18.34	.....
6.	0.3640	.....	0.2814	+29.25	.....
7.	0.03572	.....	0.03319	+119.2	.....
8.	0.02912	.....	0.02112	+37.81	.....
9.	0.1583	.....	0.1035	+52.96	.....
10.	0.1729	0.1092	0.1112	+55.48	—1.79
11.	0.07644	0.06158	0.05154	+48.31	+30.66
12.	0.1565	0.091	0.0923	+69.61	—1.14
13.	0.2621	0.1784	0.1577	+66.22	+13.78
14.	0.0728	0.0384	0.03832	+89.98	—5.01
15.	0.1585	0.09828	0.1132	+38.25	—13.16
16.	0.1230	0.1002	0.1313	+58.61	+21.01
17.	0.2038	0.1201	0.1470	+38.64	—18.2
18.	0.2348	0.1911	0.1469	+59.83	+30.09
19.	0.1966	0.1856	0.1364	+44.13	+21.41
20.	0.06828	0.0837	0.04249	+160.7	+30.27
21.	0.1383	0.0582	0.0973	+42.14	—40.19
22.	0.1966	0.1529	0.1374	+43.08	+11.28
23.	0.0546	0.04368	0.0339	+61.06	+28.85
24.	0.0728	0.03276	0.0232	+213.80	+41.21
25.	0.2621	0.2475	0.2140	+22.48	+15.65
26.	0.2366	0.2002	0.1630	+45.15	+22.82
27.	0.1511	0.1183	0.1076	+40.42	+9.94
28.	0.2912	0.1711	0.1919	+51.75	—10.84
29.	0.1165	0.0728	0.08302	+40.32	—12.31
30.	0.2621	0.2330	0.1866	+40.46	+24.86
31.	0.1241	0.0584	0.06815	+87.62	—11.71
32.	0.0546	.....	0.01433	+281.00	.....
33.	0.1529	0.05008	0.09272	+64.91	—17.63
34.	0.1674	0.091	0.1347	+24.24	—32.44
35.	0.1820	0.1274	0.1256	+44.90	+ 1.43
36.	0.3349	.....	0.1960	+70.87	.....
37.	0.1674	0.1274	0.099	+69.10	+28.69
38.	0.2330	0.1820	0.1486	+56.74	+22.47
39.	0.1674	0.1602	0.1313	+27.49	+22.01

A CASE OF CHOLESTERIN STONES IN THE BRAIN AND CORD.*

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BOSTON.

Following is a case of multiple cholesterin concretions found at autopsy in the brain and cord of a man who showed in life no signs referable thereto. About the masses there was a fibrillary overgrowth of neuroglia.

The patient was under clinical observation at the Boston City Hospital for a little over three weeks in the spring of 1904, on the medical service of Dr. C. F. Withington, whom I wish to thank for the use of his records. The patient was a man of 56, with extensive peripheral arteriosclerosis. For the most part he presented a plain history of cardiac disease growing worse: orthopnea, dyspnea, cyanosis, edema, all coming on in irregular spells, together with gradual enlargement of the heart area and feebleness of heart action, slight albuminuria, a fairly constant demonstration of a soft blowing systolic murmur at the apex transmitted to the axilla, and gradual development of dullness in lower

* From the Pathological Laboratory of the Boston City Hospital.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

backs. There were no signs directly referable to lesion of the nervous system. A frost-bite of the previous winter had failed to heal well in the right foot. He died a little unexpectedly during a slight apparent improvement in his cardiac symptoms.

The autopsy showed general and extensive arteriosclerosis. The coronary arteries were extensively yellowed and stiffened. The aorta showed diffuse sclerosis with calcification. The sclerosis of the circle of Willis was unusually extensive; and its primary and secondary branches were involved. The heart showed considerable hypertrophy (weight, 615 grams) and diffuse yellowish thickenings of the mitral leaflets. The mitral orifice measured 11.5 cm.; the other valves were not abnormal. The heart muscle showed fine fat droplets in a very few fibers by the Scharlach R. method. Fresh extensive infarctions of the kidney were found, due either to thrombosis or to emboli, which had become in part organized. A hemorrhagic wedge-shaped area in the lower lobe of of the right lung was covered with fresh fibrin. The lungs in general were edematous and congested. The trunk showed little else abnormal save a fibrous pleurisy of the left side and chronic thickenings about the spleen and the liver. The organs of the trunk were examined by Dr. C. J. Duval, whom I wish to thank for his records.

The findings in the head were as follows:

Scalp, calvarium, dura normal. Sinuses contain fluid blood. Pia edematous, notably over vertex. Strips readily. Superficial veins contain no great amount of blood. Carotids yellow and stiff almost uniformly. Circle of Willis, with primary and sometimes secondary branches, focally yellow and stiff. Substance shows on external palpation no great variety of consistence. The brain is slightly moister posteriorly. The gyri are fairly firm. On section the substance of the anterior portions of the centrum semiovale in both hemispheres is of normal consistence. The posterior portions of the centrum semiovale are moister and softer than in front; brain substance clings to the knife on section. The edema and softening are more marked on the right hemisphere. At the junction of the gray and white matter of the posterior portion of the left middle tempero-sphenoidal convolution is a coherent, gritty, solid sliver of yellowish-gray material 1.5x1.0x0.5 cm., tightly adherent to the surrounding tissue. There is a similar spheroidal mass about 1 cm. in diameter, imbedded in the gray matter of the right inferior frontal convolution. Adjacent to this inferiorly about 1 cm. distant is a purplish-red, slightly translucent, smoothly cutting and slightly bulging area 1 cm. in diameter, in the inner zone of the cortex. Next this is a small indefinitely bounded area of moist, grumous, opaque, yellowish-gray material, possibly the product of occlusion of a medullary branch of the cortical arterial system; no embolus was found. No similar areas elsewhere. Ventricles contain more than a tablespoonful each of a clear fluid. Choroid plexuses slightly cystiform. Ependyma normal.

Basal ganglia normal and of the usual consistence, except in the middle of the left lenticular nucleus, which presents a stony mass 2 cm. in diameter and slightly flattened from before backward. The mass is closely invested by a thin fibrous capsule and does not shell out. On sawing the middle is found to contain soft opaque grayish material.

Isthmus, bulb and cerebellum normal. Cord: Pia edematous in the middle of the posterior columns of the lower cervical region are small, symmetrical gray areas, suggesting sclerosis. Gray matter everywhere retracts slightly from section surface. On the pia of lower dorsal cord is a single minute white calcified plaque.

Microscopic examination of the organs of the trunk showed a slight brown atrophy of the heart muscle, a hemorrhagic infarct in the lung surrounded by a zone of cocci, chronic passive congestion of liver (extreme) and spleen, infarction of the kidney with zone of congestion and leucocyte invasion, an adrenal with high blood content, and a pancreas without notable lesion. There was evidence of arteriosclerosis throughout the organs.

Microscopic examination of the brain and cord showed a moderate subpial gliosis in several places examined. The cortex cerebri, except near the cholesterin masses, was not greatly altered. The tissue of the cord showed very numerous corpora amylacea.

The reaction about the cholesterin masses in the gray matter is slight. A teased specimen from the capsule about the mass in the lenticular nucleus was fixed in formalin and mordanted with picric acid, followed by ammonium bichromate and showed hairlike masses of neuroglia fibrils.

More notable is the reaction about the miliary muscles in the white substance of the cord. These foci are grossly evident in sections of the cord fixed in Zenker's fluid, mounted in paraffin, and stained with phosphotungstic acid hematin. The cholesterin masses have become dissolved away; all that remains of a lesion is the cavity surrounded by a narrow zone in which nerve fibers and myelin sheaths are absent and replaced with a fine felt-work of neuroglia fibrils.

Flakes from various masses and from different portions of the large mass in the lenticular nucleus were found to consist

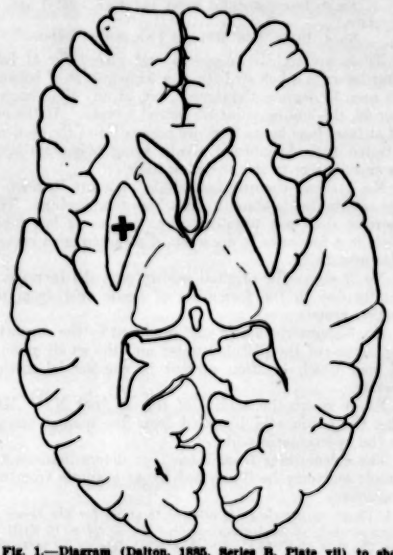


Fig. 1.—Diagram (Dalton, 1885, Series B, Plate vii) to show position of large cholesterin mass.

chiefly of smaller and larger cholesterin crystals. No tubercle bacilli could be demonstrated among the crystals. One-half gram of material from the middle of the largest mass was injected into the groin of a guinea-pig, but tuberculosis did not follow.

It is not possible at present to give an adequate explanation of this finding. The condition has nothing in common with cholesteatoma, excepting cholesterin, and fails to show the essential element of cholesteatoma, viz., an accumulation of desquamated epidermal cells. It is not possible to prove a relationship of the deposits with the remains of tubercles, of gummata or of multiple abscesses. It is possible that the deposits are related with old lesions of the blood vessels, perhaps with occlusions or with changes in the vessel walls; at any rate, there is unusually widespread arteriosclerosis in the case. Whatever their origin, it is harder to account for their accumulation in solid tissues than in a cavity like the gall bladder.

The chief interest of the deposits must for the present remain in their association with multiple foci of sclerosis. Deposits like those in the cord may readily be overlooked in routine examinations, and the small spaces occupied by the crystals may be taken for artefacts in preparation. A more careful fresh inspection of central nerve tissues, and especially of the cord, may bring out more of such miliary or larger glioses, to which the attention was drawn in the present case only by the presence of large masses in the gray matter of the cerebrum. The case can hardly be unique. With more cases the relationship of the cholesterin with old foci of suppuration or with vascular lesions may be demonstrated.

SUMMARY.

Male of 56 years. General and extensive arteriosclerosis, extending to gross involvement of some secondary branches of the circle of Willis. Death from heart failure. Small masses of pure or almost pure cholesterin crystals in several parts of the cortical and central ganglionic gray matter and in the white matter of the spinal cord. Largest mass, 2 cm. in diameter, in middle of left lenticular nucleus. Thin capsules due to fibrillary overgrowth of neuroglia surround the masses. The relation of cholesterin to miliary glioses in the spinal cord may readily escape attention.

Special Article

IMMUNITY.

CHAPTER XXXIV.

BACILLUS OF FRIEDLANDER AND OTHER MEMBERS OF THE CAPSULE-FORMING GROUP.

Capsulated Bacilli.

The bacillus of Friedlander, or *Bacillus pneumoniæ*, is the type of a rather large group of bacteria, called the Friedlander group, or the group of *Bacillus mucosus capsulatus*. In addition to the ability to produce a mucus-like capsule or envelope, they have in general the following characteristics (Abel): short, plump rods, varying in their proportions, having no motion, no flagellæ, no spore formation, and not staining by Gram's method. They form mucus-like masses in cultures, do not liquefy gelatin and are facultative anaërobes. They are widely distributed in nature, vary from innocuousness to extreme pathogenicity for animals, are rarely found in the mouth, nose and bronchi normally (bacillus of Friedlander), one type being a normal inhabitant of the intestines, especially in children (*B. aërogenes capsulatus*). In man three members of the group—they may be the same organism or variations of a type—are of interest from the standpoint of infection: Bacillus of Friedlander, the bacillus of rhinoscleroma and the ozæna bacillus.

Pneumonia Caused by Friedlander's Bacillus.

In 129 cases of acute inflammation of the lungs, Weichselbaum found the bacillus of pneumonia nine times, twice with streptococci and once with the diplococcus of pneumonia. The organism causes lobular pneumonia more frequently than lobar. The homogeneous non-granular surface, and the large amount of fluid of a viscid or mucous consistence, are characteristic anatomic features. The alveoli contain massive numbers of the bacilli. The bacillus of Friedlander is found also as the cause of pyelitis, cystitis, pyelonephritis, serous or purulent pericarditis, and pleuritis and menengitis, which may be accompanied by brain abscesses. Meningitis when produced by this organism usually or always is secondary to infection in other parts of the body by the same organism (middle ear and accessory sinuses of the nose).

Rhinoscleroma and Ozæna.

An organism of the Friedlander type is found with few exceptions in the tissues in rhinoscleroma, and by many is considered as the cause of the condition. A similar organism is found constantly in the secretions and crusts in ozæna. Antiserums of distinct power have not been obtained for members of the group. Prolonged immunization with some strains yields an agglutinating serum of low value. The agglutination reaction is of no value for identification of the different members of the group, nor for clinical diagnosis.

EPIDEMIC CEREBROSPINAL MENINGITIS.

Microbes Causing Meningitis.

Acute inflammation of the meninges may be caused by a number of micro-organisms: *Micrococcus meningitidis*, also called the *Diplococcus intracellularis meningitidis*, or briefly the meningococcus; *Diplococcus pneumoniæ*; *Streptococcus pyogenes*; *Staphylococcus pyogenes*; *Bacillus influenzæ*; *Bacillus pneumoniæ*; *Bacillus typhosus*; *Bacillus coli communis*; *Bacillus mallei*; *Bacillus pestis*. The first two of this number, the meningococcus and the pneumococcus, in addition to causing sporadic cases, also produce more or less extensive epidemics of so-called primary meningitis. That the pneumococcus may also cause meningitis secondary to pneumococcus infections in other parts of the body has been mentioned. Also the meningitis caused by the other pyogenic cocci usually is secondary to some other suppurative focus, often the middle ear; that caused by the organisms of typhoid, glanders, plague and influenza occurs during the course of the diseases caused by the corresponding micro-organisms.

Micrococcus Meningitidis.

Previous to 1887 diplococci resembling the pneumococcus had been found in the exudate in cases of cerebrospinal meningitis by Foà and Bordoni-Uffreduzzi, by Fraenkel and others. Weichselbaum made similar observations during the same year, and in addition described six cases in which a diplococcus of another nature was present in pure cultures. To the latter he gave the name of *Diplococcus intracellularis meningitidis*. Extensive observations by others, both in Europe and America (Councilman, Mallory and Wright, and others), revealed the presence of the last named organism in many instances, and showed that it is the most common cause of epidemic cerebrospinal meningitis.

The meningococcus resembles the gonococcus closely in that it is usually found in biscuit-shaped pairs, nearly always within pus cells, and does not stain by Gram's method (Weichselbaum). It is properly to be called a micrococcus since it divides in two transverse directions (Albrecht and Gohn); tetrads, small groups and short chains are sometimes seen. However, it forms no striking chains, is non-motile and produces no spores. Growth may be obtained on some of the ordinary media (glycerin agar), in which the organism differs from the gonococcus, but a medium which contains blood or serum is much more favorable. It is an obligate aërobe, grows best at the body temperature and virulence is soon lost under artificial conditions.

It produces a membrane on meat broth with clouding of the medium. Viability is retained for only a few days at room temperature. When dried on paper and exposed to the sunlight it lives no longer than twenty-four hours, in a dark room seventy-two hours (Councilman, Malory and Wright). It is killed by a temperature of 65° C. for thirty minutes (Albrecht and Gohn).

Virulence; Endotoxin.

The meningococcus has little virulence for animals. When injected in sufficient quantity into the peritoneal or pleural cavity of white mice death results in from twenty-four to forty-eight hours, but not when given subcutaneously. Meningitis may be produced by subdural injections, but the disease does not resemble the epidemic meningitis of man. So far as is known at the present time the organism does not produce a soluble toxin, but possesses rather an endotoxin.

Infection Atria.

Although the disease is usually spoken of as a primary meningitis, there is reason to believe that it is secondary to an acute rhinitis or acute inflammation of the accessory sinuses or middle ear, at least in many instances. From these places the coccus may readily reach the meninges by way of the lym-

phatic channels. The organisms have been found repeatedly in the noses of those who were associated with cases of the disease; in such cases an acute rhinitis may be present without the subsequent development of meningitis. Clinical histories of the cases show that the infection commonly is preceded by acute rhinitis. The inflammation in the meninges is always cerebrospinal in its distribution and is characterized by a purulent or fibrino-purulent exudate in which the diplococci are present in varying quantities. Diagnosis may often be established clinically by the microscopic or cultural examination of the cerebrospinal fluid which is removed by lumbar puncture.

Complications and Other Infections.

Acute encephalitis, acute bronchitis, lobar pneumonia and acute arthritis have been observed as complications, in which organisms resembling the meningococcus have been found in a number of instances. An accompanying bronchitis, lobar or lobular pneumonia may be caused by mixed infection with other organisms (pneumococcus, streptococcus, staphylococcus). Since it would be difficult to explain some of these complications except on the basis of metastasis, it seems very probable that the organism reaches the blood stream. Micrococci resembling the meningococcus have been found in acute bronchitis, rhinitis, lobular pneumonia and conjunctivitis, in the absence of cerebral involvement, and it is possible that it may be the cause of independent inflammations in these tissues. Weichselbaum, however, is inclined to doubt the identity of such organisms with the meningococcus. Particularly in cases of bronchitis and lobular pneumonia the coccus may be confused with the *Micrococcus catarrhalis* of Pfeiffer, with which it is identical morphologically.

The extent to which the meningococcus is a normal inhabitant of the nasal mucous membrane is unknown.

Transmission and Contagiousness.

Since the organism seems to be excreted chiefly or only with the nasal discharges, the latter probably are important for transmission of the infection. Because of the low resistance of the organism to desiccation and light, transmission probably is a fairly direct one. This is suggested also by the occasional occurrence of epidemics in institutions. Contagiousness probably is of a rather low order; this is indicated by the distribution of the 111 cases observed by Councilman, Mallory and Wright in Boston, the city being somewhat diffusely infected with very little tendency of the disease to occur in groups of individuals or in several members of a family.

Susceptibility and Immunity.

The desirability of avoiding contact with the infected is evident; special prophylactic measures are not known. In the presence of an epidemic the treatment of rhinitis with local antiseptics would suggest itself.

Children and young people are particularly susceptible to both epidemic and sporadic infections with the meningococcus. Exposure incident to the cold and variable weather of the winter and spring, in which seasons the disease prevails, may be influential in lowering resistance. Second attacks are rare, Councilman, Mallory and Wright collecting only five such examples from the literature. Lipierre immunized animals with cultures and with a toxin, the latter being a glycerin extract of old cultures. Their resistance to infection was said to be increased, and the serum of highly immunized animals was antitoxic, preventive and curative for other animals. Corroborative work is lacking. It is learned from Dr. D. J. Davis privately that the serum in cases of epidemic meningitis shows an increased bactericidal power on the thirteenth day of the disease, and that the agglutinins which develop probably persist for some time, but are little above the normal after two and one-half years.[1] Fairly strong agglutinins may be obtained by the immunization of rabbits (Jäger and Albrecht and Gohn).

MICROCOCCUS CATARRHALIS.

For some years diplococci resembling the gonococcus and the meningococcus morphologically and in staining reactions have been found in the sputum by a number of observers, and to this coccus Pfeiffer gave the name of *Micrococcus catarrhalis*. It is frequently found in the respiratory passages in influenza-like infections and other inflammatory conditions, and occasionally in lobular pneumonia. It may be associated with the influenza bacillus or the pneumococcus. Among 140 cases of diseases of the respiratory passages Gohn and H. Pfeiffer found it eighty-one times, and M. Neisser demonstrated it in sixteen cases of whooping-cough, in one of measles and scarlet fever, and in two of diphtheria. It loses significance in relation to these diseases, however, since Jündell found it frequently in the mucus of the normal trachea, and Weichselbaum cultivated it frequently from the healthy nasal fossæ. According to Gohn, Pfeiffer and Sederl, "The *Micrococcus catarrhalis*, without the association of other microbes, is able to cause bronchitis and pneumonia with the clinical type of pneumonia due to the pneumococcus. The symptoms caused by the *Micrococcus catarrhalis* do not form a clinical type. They resemble infections by the pneumococcus or the bacillus of Pfeiffer (Influenza)" (Cited by Bezançon and de Jong). Others are not so positive concerning the pathogenic properties of the organism. Its etiologic rôle is not yet well established. It has little pathogenicity for animals, although peritoneal and pleural infection is possible in guinea-pigs.

It differs from the gonococcus and meningococcus in certain cultural characters.

GONORRHEAL INFECTIONS.

The Gonococcus.

A. Neisser discovered the gonococcus in 1879, cultivated it in 1884, and demonstrated its specific relation to gonorrhea by the inoculation of pure cultures into the human urethra. It is a diplococcus, young pairs having a figure-of-eight contour, whereas older pairs show a typical biscuit or coffee-bean shape. The organism is non-motile, has no flagellæ and forms no spores. It can be cultivated only on media which contain serum, ascitic or a similar fluid. Its failure to stain by Gram's method is of great diagnostic importance in the examination of urethral discharges; other organisms resembling the gonococcus are found in the urethra and vagina with great rarity. The reaction loses its differential value in the examination of secretions of the nose, mouth, and, to some extent, of the conjunctiva, where the meningococcus and the *Micrococcus catarrhalis* may be encountered.

Phagocytosis.

In the purulent stage of a gonorrheal infection the cocci are found almost entirely within the leucocytes, whereas in earlier stages, when the discharge is slight and of a mucous character, and also during convalescence, when the secretion again becomes mucous, they are largely extracellular. They are never within the nuclei. The process is one of active phagocytosis in which the cocci play a passive rôle. They occur not only on the surface of the epithelium, but penetrate between and beneath the epithelial cells, and even into the adjacent connective tissue.

Cultivation and Resistance.

In culture media growth is slow and scant, and cultures rarely live longer than one or two weeks, unless they are transplanted to fresh media. On the latter they may be carried through many generations without losing their virulence. When dried they die very quickly, but may live for some hours on linen (towels) or the skin, and for twenty-four

1. The conclusions of Dr. Davis, in part, are as follows: In five cases of epidemic cerebrospinal meningitis, the meningococcus (Weichselbaum type), was obtained in every case from the cerebrospinal fluid, and in one case from the nose and sputum by cultures. In the other four cases Gram-negative diplococci suggestive of either meningococcus or *Micrococcus catarrhalis* were seen in smears, but were not recovered in cultures. Agglutination of meningococcus by the serum of patients with meningitis occurs in a dilution of 1-50 or higher. The meningococcus grows in some defibrinated normal bloods, but not in others, there being thus an interesting individual variation. In the blood of three meningitis cases it did not grow. Normal human serum is distinctly bactericidal toward the meningococcus. This property is increased in the sera of meningitis cases, and is diminished but not entirely destroyed by heating to 60 C. for thirty minutes. Cerebrospinal fluid acts in much the same way as heated serum. The opsonin content of the blood does not appear to be altered during the course of epidemic meningitis. Normal cerebrospinal fluid does not contain opsonin for meningococci.

The paper of Dr. Davis will be published in full in the forthcoming number of The Journal of Infectious Diseases.

hours in warm water. They are very susceptible to temperatures above 42 to 43° C. and show very little resistance to antiseptics, particularly the silver salts.

Toxicity and Virulence.

The gonococcus secretes no soluble toxin, but contains an endotoxin or toxic "protein" which causes local and general symptoms in both man and animals. Dead cultures produce an inflammatory exudate in the peritoneal cavity of guinea-pigs and mice, resulting in death if the dose is sufficiently large, and when injected into the urethra of man a temporary inflammation results. An actual infection of any sort can not be produced in animals; the cocci are killed without being permitted to proliferate. The endotoxin is fairly resistant to heat, being destroyed only after prolonged exposure to a temperature of 100° C.

Susceptible Tissues.

In man the mucous membranes and endothelial surfaces are more susceptible to infection than other tissues. The urethra of male and female at all ages, the conjunctiva in the new-born, the vagina, uterus and tubes are probably the most susceptible. Less susceptible are the vagina in older women, especially those who have borne children; the bladder, and in adults the conjunctiva. It is remarkable that there are so few cases of gonorrheal ophthalmia in adults, considering the opportunities for infection. Infection of the mouth, nose and tear sacs is extremely rare. Extension from the urethra to adjacent structures takes place either by way of the surfaces, as in involvement of the prostate, epididymis, glands of Bartholin, uterus, tubes, ovaries, peritoneum, bladder and kidneys, or by way of the lymphatics as in infections of the periurethral tissue or cellular tissue of the pelvis. Infections of the bladder and kidney, and not infrequently the prostate, Fallopian tubes and pelvic tissue are of a mixed character (staphylococcus, streptococcus), but not necessarily so. Arthritis, tendovaginitis, endocarditis, which usually is vegetative but may be ulcerative, are the more common metastatic complications Less frequent are pericarditis, pleuritis, subcutaneous abscesses and iritis. As to whether the cutaneous phenomena sometimes seen are due to metastases or are of purely toxic origin seems to be undetermined. The blood stream may be infected by way of the lymphatics or local blood vessels (gonorrheal thrombosis).

The influence of the enormous phagocytosis of the cocci on the course of gonorrhea is unknown. Since the ingested cocci usually have a typical form and stain well, it would seem that they resist the action of the leucocytic ferments. Likewise the nuclei of the leucocytes usually stain well, hence there is no evidence of a marked toxicity of the cocci for these cells. The mechanical imprisonment of the organisms by the leucocytes may be of influence in localizing the infection.

Urethral Changes.

During the course of gonorrhea "there takes place a pronounced metaplasia of the epithelium in which the cylindrical cells are changed into a more cuboidal and even pavement form." Following this change the gonococci are limited to the surface of the altered epithelium and penetrate more deeply only in the vicinity of the glands and crypts. "Eventually the gonorrheal process is limited to such isolated points and the gonorrhea thereby enters into a chronic stage" (Observations of Finger, cited by Neisser and Scholtz).

Chronic Gonorrhea.

The conditions which cause the subsidence of acute gonorrhea and allow it to persist as a chronic infection have been the subject of much speculation, unproductive for the most part. It is not due to a decrease in the virulence of the cocci since their original infectiousness is retained for others; nor does the local resistance of the mucous membrane reach a high point, since reinfection, or better "superinfection" is possible at any time. A man suffering from chronic gonorrhea and having infected his wife, may again be infected by his wife when the gonorrhea of the latter has become subacute or chronic. It has been suggested that the condition in chronic gonorrhea may be one of "mutual habituation between the mucous membrane and the gonococcus," i. e., a habituation between this particular mucous membrane and this particular gonococcus. Because of prolonged existence under unvarying conditions, the growth energy of the organism may have become less, whereas, if it is placed in a slightly different medium (transference to another individual), its growth energy (ability to proliferate), becomes augmented, and reinfection of the original host with the same strain becomes possible.

It has often been noted that subsequent attacks run a milder course than the primary infection, but susceptibility is always present.

Immunity.

Mendez, Calvino, and also de Christmas have immunized with the cocceus or toxic substances prepared from it. By growing the organism in serum bouillon de Christmas prepared a toxin, the toxicity of which was tested by intracerebral injections in the guinea-pig. Immunization of the guinea-pig resulted in a serum with antitoxic properties. Corroborative work has not been published.

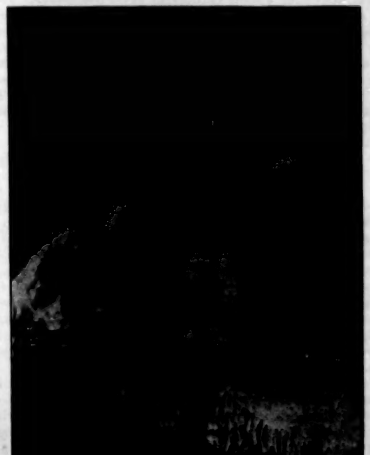
[This series of articles closes with this issue. During the time that they have been appearing in "The Journal" we have received repeated requests to have them reproduced in book form, and the book is now in press. In addition to the subjects considered in the series, the book will contain chapters on infections with the streptococcus, staphylococcus, the diseases of protozoon etiology, and those of doubtful or unknown etiology, including among the latter, smallpox, vaccinia, chickenpox, scarlet fever, measles, German measles, typhus, syphilis, yellow fever, hydrophobia and whooping-cough. The articles, revised and collected in book form, will include a consideration of these diseases from the standpoints of infection and immunity. The book will be ready for delivery in January. The price will be $1.50.]

Clinical Notes

RATTLESNAKE BITE.

W. A. GRESHAM, M.D.
RUSSELLVILLE, ALA.

A man was bitten August 14 by a very large rattlesnake. For about thirty hours it seemed that he was about to succumb at any time, but he suddenly began to improve. He suffered intensely for twenty-four hours. The accompanying



photograph was taken August 17, about eighty-two hours after the injury. There was only a little sloughing at the point of injection of the poison, but the man was incapacitated for work about thirty days. As to treatment, the arm was corded tightly, an abundance of whisky was given, and hypodermic injections of strychnin 1/40 g. ever forty-five minutes. He has gone to work and has a good arm.

FATAL CASE OF BLACKWATER FEVER SUPERVENING ON AMEBIC DYSENTERY AND SHOWING MALARIAL PARASITES IN THE BLOOD.*

F. CREIGHTON WELLMAN, M.D.
BENGUELLA, WEST AFRICA.

Patient.—Lieutenant M. de G., aged 28, Portuguese, was first seen Dec. 20, 1904.

History.—The patient had been in Africa two years. The first year and a half of this time were spent on the coast, the last six months in the interior. He has never suffered much from malaria nor blackwater fever. Recently he was again sent to the coast, where he spent three weeks. As he was leaving to return to the interior he was attacked with a sharp diarrhea and passed some blood. He recovered in a few days and continued his journey. He has had some looseness of the bowels, with occasional pains, ever since. After his arrival at Bihi fort he had a relapse of the "diarrhea" and was in considerable distress and very weak. He thought he also had some fever, so he came to me for advice.

General Condition.—The patient was thin, weak and feverish. He had no appetite. His tongue was foul. Temperature was 102.4 F., pulse 93, respiration 28. The spleen was slightly enlarged. There was tenderness over the lower bowels. The other organs were normal. At stool there was moderate tenesmus. He had taken no medicine except a diarrhea mixture, ingredients unknown. He considered this the second day of his disease (relapse).

Examination of Feces.—The stools were small and unformed, consisting almost entirely of blood and mucus. There was one moderate-sized slough. Under the microscope many amebæ morphologically identical with *Amœba coli* (Lösch) were seen.

Examination of Blood.—Both fresh and stained specimens were examined, one of each. In the latter two malarial parasites were seen; both were small intracapsular forms. The result of a differential leucocyte count was as follows (about 50 cells counted):

Polymorphonuclears	81.5 per cent.
Lymphocytes	24 per cent.
Large mononuclear	17 per cent.
Transitional	3 per cent.
Eosinophiles	2 per cent.

The initial and succeeding erythrocyte counts are shown in the chart.

Examination of Urine.—The urine was dark but clear. The spectroscope revealed none of the compounds of hemoglobin. There was a trace of albumin.

Course of the Disease.—The patient was placed in bed (11 a. m.), and small doses of Epsom salts in solution every hour were prescribed. He was placed on liquid diet with a little brandy. In spite of frequent sponging of the body the temperature steadily rose until 5 p. m., when the hemoglobinuria set in.

Re-examination of Urine.—After the hemoglobinuria set in, the urine was re-examined; the color was about like that of porter or stout. There was a dirty-gray sediment, showing under the microscope débris, masses of hemoglobin, and some hyaline and granular casts. The urine was not spectroscoped at first. In later specimens the bands of both oxyhemoglobin and reduced hemoglobin could be seen by shaking up the urine, examining it, adding ammonium sulphid and examining again.

Further Course of the Disease.—*Amœba coli* persisted in the stools (which showed some improvement) throughout the attack, but malarial parasites were not demonstrated in three successive blood examinations. On the morning of the sixth day of the disease the temperature was found to have spontaneously fallen to 101 F. The following day severe hiccoughs set in which nothing availed to control. The patient died at 4:20 p. m. on the twelfth day.

Treatment.—The treatment pursued was entirely symptomatic and expectant. The saline routine for the dysentery, liquid nourishment and stimulants were administered for the weakness and the usual ineffectual gamut of sedatives and other devices were tried to control the hiccoughs. Quinin was not administered at any period of the attack as hemoglobinuria was feared from the first.

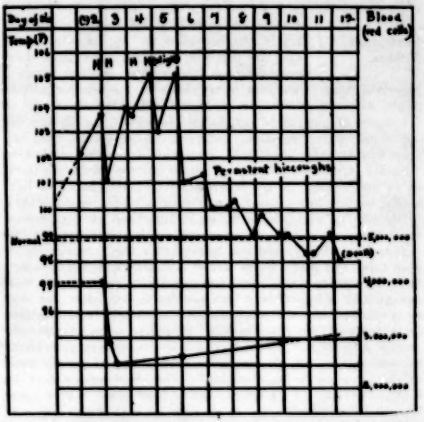


Chart 1.—The blood counts were made on the Thoma-Zeiss hemocytometer. In the first two counts, the blood was also centrifuged and the reading on the hematocrit compared with the result of the actual count. H = hemoglobinuria.

REMARKS.

1. This is the thirty-fourth case which I have studied more or less carefully in West Africa. Of this series 29 patients recovered.

2. The case just recorded is the only instance in which death occurred during the first attack. This may be explained by the previous and synchronous dysentery.

3. In three cases malarial parasites were seen in the blood immediately preceding the hemoglobinuria. In the present case the return of the dysentery probably brought about an explosion of latent malaria, and the two conditions combined were able to produce the physiologic depression and hypotonicity of the blood that invited the intercurrent hemoglobinuria.

4. The question of the relation between malaria and blackwater fever is of great interest, but too intricate to be discussed in a paper of this kind. I believe that they are related in some way, and I have shown that in southern Angola the geographical distribution of *Myzomyia funesta*, Giles (the principal carrier of *H. præcox* in West Africa), severe malaria and hemoglobinuric fever closely coincide. The precise character of the relation between the two diseases (which is disputed by some) has not yet been shown.

* Published under the auspices of the American Society of Tropical Medicine.

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CLIMATIC TREATMENT OF CIRCULATORY DISEASE.

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NEW YORK.

During the past four years it has been my good fortune to witness the beneficial effect of certain climatic conditions on certain forms of circulatory disease. It has, indeed, been a surprise to myself, accustomed to city conditions, to see how much is accomplished by treatment of certain cases of secondary low arterial tension, even when accompanied by such accidents as hemiplegia, in the climate of the lower Maine coast.

My observations were made at York. The first case was one of secondary low arterial tension following high tension in a man who had had a prolonged and anxious business strain. While under this strain this man suddenly developed hemiplegia and aphasia. When I saw him he was suffering from these conditions. The heart was dilated; there were loud murmurs at the base and apex. He could not make any exertion without shortness of breath, and was extremely depressed. In other words, he was suffering from all signs of a marked deterioration of the circulatory apparatus. The improvement in this case was very marked, so that by the end of the summer the man was able to take long walks, his paralysis and aphasia were much improved, and a process was checked which had every indication of progressing to a fatal termination.

Another case was that of a woman, also suffering from right hemiplegia and slight aphasia, in whom the secondary low arterial tension was just commencing. She also made vast improvement by the end of the summer, and had even for the time being recovered from the tendency to high tension.

The third was a case of a woman with low arterial tension secondary to an exhausted nervous system and the high tension of nervous strain. She also improved very much, but, the cause not being removed, the improvement was not so marked.

Now, it may not seem that climate had much to do with these cases, but a study of the effect of the climate and an analysis of its characteristics make it evident that for this class of cases the summer climate of lower Maine coast is particularly beneficial. The climate of the lower Maine coast has a remarkable combination of dryness with sea air and low temperature in summer. It is beneficial in all cases of physical exhaustion and to patients who require a restoration of the vitality after disease. The climate is wonderfully stimulating to nutrition. On the other hand, it is not beneficial to patients suffering from purely functional nervous diseases requiring rest. These patients are overstimulated and are apt to suffer from restlessness and insomnia. Still, patients with a tendency to melancholia and depressed conditions are much improved. The physical effect of the transition from the climate of New York to the climate of the lower Maine coast is really remarkable. Those unaccustomed to the change find a longer stay than six weeks too stimulating. So that many persons who make their summer home there find it beneficial to go inland to a less exciting climate for a rest in the middle of the season.

We all know how difficult is the task of restoring what we call vitality. This is a word so frequently on the lips of physicians that I have noticed that when first used to a new client it often excites a smile on the part of the patient. One said the other day: "Please do not talk any more about that thing you call vitality." Whether we talk about it or not, it is an important element with most chronic invalids, and it is the element that has seemed to me most benefited by this particular climate. The drawback with most seashore climates is the great dampness. The lower Maine coast escapes the fogs which are so prevalent to the north and south. The ocean is very shallow and the shore recedes here so that the fog bank lays off the coast, within sight, but seldom reaches the land.

The Survival of the Fittest.—Modern medicine has been accused of helping to deteriorate the human race, by preserving the weaklings, and thus arresting the law of the survival of the fittest; but surely preventive medicine is enabling the nations that are intellectually fit, to survive, while those steeped in ignorance, are decimated by preventable diseases.—Hanbridge, in *Albany Med. Ann.*

A METHOD FOR THE RAPID PREPARATION OF FRESH TISSUES FOR THE MICROSCOPE.

LOUIS B. WILSON, M.D.
Pathologist St. Mary's Hospital.
ROCHESTER, MINN.

While engaged in general pathologic work I shared the common distrust of frozen sections of fresh tissues for microscopic diagnosis. On taking charge recently of the laboratories of the Drs. Mayo, surgeons, I carefully tested the various methods hitherto published and found them either too slow for results while the patient waits under the anesthetic or else giving poorly differentiated cell detail. After considerable experimentation the following technic was discovered, and for the last six months it has given uniformly excellent preparations:

1. Bits of fresh tissue not more than 2x10x10 mm. are frozen in dextrin solution and cut in sections of from 10 to 15 microns thick.
2. The sections are removed from the knife with the tip of the finger and allowed to thaw thereon.
3. The sections are unrolled with camel's-hair brushes in 1 per cent. NaCl solution.
4. The sections are stained from 10 to 20 seconds in neutral Unna's polychrome methylene blue.
5. They are washed out in 1 per cent. NaCl solution.
6. They are mounted in Brun's glucose medium.

The microtome which I use is the Spencer automatic with a CO_2 attachment in which vulcanite is substituted for brass in the wall of the freezing chamber, thus insulating the freezing plate. Thawing the section on the finger prevents to a great extent the formation of bubbles. The well-made camel's-hair brushes used by artists are much more useful for handling tissues than those usually furnished by laboratory supply houses. A heavy, shallow watch glass over a black surface is the best receptacle in which to unroll sections. Sections are best handled in the stain folded over a lifter made of a small glass rod drawn out and bent at convenient angle. The section is kept constantly moving while it is in the stain. The stain is contained in a minute cup to facilitate the rapid recovery of the section should it slip from the lifter. Washing out is done in several ounces of salt solution in a white porcelain dish and is continued only while the stain comes away freely. Brun's glucose medium (which is made by mixing distilled water 140 c.c., glucose 40 c.c., and glycerin 10 c.c., then adding camphorated spirit 10 c.c. and filtering), is held in an oval dish of porcelain (an "undecorated match safe") of such a size that a three-inch slide will rest in a slanting position, with one end in the bottom of the dish and the other on its edge. The section is spread out on the slide while it is in this position. The slide is then carefully withdrawn from the dish, the excess fluid removed, a cover-slip dropped over the section and the specimen is ready for the microscope.

The whole process can be gone through in one and a half minutes from the time the tissue is placed on the freezing plate of the microtome until the stained specimen is on the stage of the microscope. The resulting coloring is uniformly good with the tissue elements sharply contrasted in red, purple and dark blue.

A diagnosis may be made from such preparations in a large percentage of surgical cases in which a diagnosis is possible by a study of sections of the same thickness cut from fixed tissues and stained with hematoxylin and eosin.

FRACTURE OF BOTH CLAVICLES.

SCHUYLER W. HAMMOND, M.D.
RUTLAND, VT.

On Oct. 17, 1905, Mrs. H. W. H., aged 54, while running clothing from a second-story window out on an endless rope, was precipitated 15 feet below by the breaking of the rope.

Careful examination revealed fracture of the right clavicle at its outer angle and of the left clavicle at its middle. The patient also suffered separation of the os innominatum from the sacrum at the right sacroiliac synchondrosis, with some traumatism to the sacral plexus of nerves.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue .... Chicago, Ill.

Cable Address ... "Medic, Chicago"

Subscription price ..... Five dollars per annum in advance

SATURDAY, DECEMBER 2, 1905.

COUGHS AND COLDS.

The sudden changes in the weather during the period when fall is gradually passing into winter are likely to be the occasion for a number of ordinary colds. Because of the presence of these, it not infrequently happens that pulmonary affections of serious significance are thought to be no more than a simple cold. The cough, it is true, is likely to be much more persistent, but then, according to an old popular tradition, midseason coughs are supposed to be more liable to persist. It is easy to understand, then, how too little may be made of a cough, and, as a result, a patient may be allowed to lose precious time at the beginning of active pulmonary tuberculosis, each day of whose progress makes the ultimate prognosis a little less favorable. Tuberculous patients who continue their ordinary occupations are almost sure to have their symptoms gradually grow worse and their tuberculosis more active, and the possibility of an incipient case becoming fairly well advanced during the delay can be readily understood.

Those in charge of large sanatoria for the treatment of tuberculosis insist that the ordinary general practitioner does not recognize pulmonary tuberculosis soon enough for a cure to be possible in most cases in which the patients are sent away for sanatorium treatment. The physical signs and symptoms for which he waits before pronouncing the case certainly tuberculous are those of advanced and not of incipient tuberculosis. Dr. Trudeau, whose opinion in this matter is to be respected, said: "The average medical man's idea of tuberculosis only relates to the disease after the rational and physical signs have become well marked."

In a recent article, Dr. Willson[1] has collected the first subjective symptoms of 86 cases of tuberculosis that had been studied with special relation to the subject. As it is because of subjective symptoms that the patients present themselves for treatment, the importance of this method of viewing the question can be readily understood. In nearly all the cases, the first symptom noted was a persistent cough without a recognized cause. This often had its origin in what seemed to be an ordinary cold, and not infrequently disappeared after a time, only to be renewed on what seemed some trivial provocation. Usually in the intervals when there was no genuine cough, there was a frequent necessity of clearing the throat and a little hacking cough utterly unproductive and apparently due only to some irritation of the larynx was noted. It is these forms of unproductive cough for which there are so many and various names. We have all heard of a stomach cough, the gynecologists occasionally speak of the uterine cough, some have not hesitated even to use the term ovarian cough, there is a laryngeal cough, of course, a kidney and nervous cough, and then the ophthalmologists sometimes speak of a cough due to the lack of correction of some error of vision.

It seems clear that in most cases the use of these special designations for unproductive coughs that hang on is fraught with serious danger. In nearly all cases, a persistent cough is due to irritation of the lungs or of the larynx consequent on the presence of the tubercle bacillus. Long before there is any question of the presence of tubercle bacilli in the expectoration, this cough will manifest itself and will not disappear completely under any ordinary treatment that does not recognize the necessity for out-door air and constitutional upbuilding. The so-called stomach cough is especially deceptive, since not infrequently the presence of tuberculosis in the system is manifested very early by a disturbance of the digestive function.

It is clear, then, that far from its being advisable to make little of a persistent cough, it is our duty to emphasize the necessity for finding out exactly what is the cause of it. Not infrequently it will be comparatively easy to find some other symptoms or physical signs that will add to the suspicion of tuberculosis in the case. Sometimes there will be no more than a tendency to rapid pulse on very little exertion, or a slight rise of temperature or a temperature normal in the afternoon, but distinctly subnormal in the morning. If any of these symptoms are present then the suspicion is more than confirmed, and until the cough can be relieved the question of tuberculosis must be allowed to remain open. At times such patients will say that they have cold hands and feet, with a tendency to perspire rather freely, either after slight exertion or after becoming thoroughly warmed in bed. Indeed, it is rather surprising how many important details can sometimes be brought out by careful questioning in what at first seemed to be "only an ordinary cold."

It is better to be frank with tuberculous patients rather than to follow the old policy of euphemistically glossing over conditions in order to save the patient a shock. For those who have not tuberculosis, frankness will have no bad effect, even if it should not be quite justified, and if it leads them to improve their physical condition so as to remove the suspicions that have been aroused, it will surely do good. Our best phthisiologists insist that this policy would save many lives every year, which is indeed a consummation to be devoutly wished.

1. International Clinics, vol. ii, 15th series, p. 50.

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THE DIAGNOSIS AND TREATMENT OF RENAL TUBERCULOSIS.

In these days of indiscriminate surgery, when the advent of asepsis allows and encourages the use of the knife by those who are not prepared to use it, the thinking internist is in danger of taking too conservative a view as to the necessity of operative procedures in certain classes of cases. Among the conditions which stand on debatable ground so far as operative indications are concerned, renal tuberculosis must be mentioned. There are many who believe that this condition is essentially a medical problem, and that operative treatment is to be resorted to only as a last chance, and this view is held even by genitourinary surgeons of note. In a paper before the recent Congress on Tuberculosis, Albarran,[1] who has certainly earned the right to speak authoritatively on this subject, discusses the problem in a very lucid manner. The decision as to whether a given condition is to be considered in the province of the physician or of the surgeon depends on a variety of circumstances. In dealing with tuberculosis in paired organs, like the kidneys, the problem is simplified by the fact that one can be removed with relative impunity provided that the other be intact. The main questions to be answered, then, are these: How frequently are the kidneys unilaterally affected in this condition? What is the usual outcome in cases treated expectantly on purely medical lines? How does the mortality under surgical treatment compare with that under medical?

These questions are taken up seriatim by Albarran, and are answered by quotations from his own statistics and from those of other observers of experience. Unilateral involvement in renal tuberculosis is the rule rather than the exception, it occurs in at least 85 per cent. of the cases, and in the majority there is no serious involvement of other organs, a point of great importance. It is true that in most cases there are symptoms which would lead the inexperienced to believe that the bladder also is infected, but the use of the cystoscope has shown conclusively that, at any rate early in the disease, the bladder lesion is of an irritative character, and is not a true cystitis. Even when signs of early lung involvement are present, a not unusual complication, experience has shown that operative intervention is rather of benefit than otherwise. The history of these cases under medical treatment is far from encouraging. Spontaneous healing is known, but is rare, and when it occurs is always due to the blocking of the ureter by the inflammatory process, a condition which throws the affected kidney out of function just as effectively as surgical removal, but is less satisfactory than the latter procedure on account of the length of time it consumes and the fact that it still leaves in the body a latent focus of disease which at any time, even years after the ureteral blocking, may again become active and cause the death of the patient. In most cases the progress under medical treatment is a slow but a steady downhill progression. Tuberculosis of the bladder, with its long-drawn agony, is followed by ascending infection of the sound kidney, or generalization of the disease, and the patient dies a lingering and painful death. In competent hands, the removal of the kidney is in itself an operation with slight mortality. Albarran lost but 3 per cent. of his cases, and the combined mortality of the six operators who have reported the largest series of cases totals 7 per cent. This is certainly a vast improvement over the mortality under medical treatment.

As in other conditions in which surgical intervention is of aid, its value often depends, in part at least, on the early recognition of the disease. This means that the general practitioner must learn to recognize, or at any rate to suspect, the presence of this condition at an early date. The specialist has at its command methods of diagnosis which, of necessity, are not available to the average physician. Catheterization of the ureters, of which the genitourinary surgeon speaks so glibly, is an operation requiring a good deal of skill, a large amount of experience, expensive instruments, and an amount of time which the ordinary physician does not possess. Yet it is the procedure *par excellence* in the diagnosis of early kidney tuberculosis. The practitioner must rely on other and more common methods of observation, and Albarran briefly sketches what he considers the more important of these. The history of vesical irritation, with more or less pain on urination, and the passage of a pale, slightly cloudy urine, is of importance. If a definite cystitis is present, its occurrence without definite cause, its aggravation under local treatment, and the absence of the ordinary micro-organisms from the urine are all suspicious circumstances. Attacks of spontaneous hematuria should be looked at askance, especially if they are not modified with rest, are painless, or are at most accompanied by vague painful sensations in the region of the kidneys. Naturally an examination of the urine for tubercle bacilli is called for, and it is to be remembered that the fresher the specimen the better the chance of finding the bacilli. The finer methods of diagnosis must often be left to the specialist. Early diagnosis is the key to success.

1. Presse Médicale, 1905, No. 80. Abstract in THE JOURNAL on page 1526.

BALANTIDIUM COLI.

The infusorium, *Balantidium coli*, as the cause of human intestinal infection, was described first by Malmsten of Stockholm in 1857. Since then, something like 117 cases have been recorded, according to the recent summary by Strong,[1] and there seems all reason to believe that this parasite may give rise to diarrhea, sometimes serious and often persistent. It is an oval-shaped, ciliated organism, from .07 to 0.1 mm. in length by from .05 to .07 mm. wide, capable of motion and of some change in form; reproduction may take place in

1. Bulletin of Government Laboratories, Manila, No. 26, Dec. 1904.

three ways, viz., by division, the most frequent; by budding, and by conjugation. It may undergo encystation.

Balantidium coli occurs with great frequency in the colon and cecum of the hog, which is regarded as its proper host, and in which it appears to be a harmless commensal. It is not known how human infection takes place; water, in which the organism may live for a long time, may be the means and perhaps also uncooked sausage meat and other forms of food.

The majority of the reported human cases are from Russia (51); in proportion to the population, a relatively large number of cases have been described in Sweden (30) and Finland (13). Only one case[2] is credited to North America, and this occurred in a German farmer in Iowa, engaged in hog raising and sausage making; the diagnosis was made in Germany, the patient having returned home for treatment for fatigue, weakness, and pain in the abdomen to the left and below the navel. He had no diarrhea, but the feces contained undigested food. Strong and Musgrave have described a fatal case from Manila.

In the 117 cases collected by Musgrave, diarrhea or dysentery existed in all but 2, the feces often containing mucus and blood. Colic, tenesmus, abdominal swelling, nausea and vomiting may occur. Only two of the cases were in children. Twenty-five per cent of the patients gave a history that pointed to infection from the hog. When the intestinal lesions are not far advanced and the strength of the patient permits it, continued local treatment may drive away the parasites. Quinin and other substances have been used in enemas with success in the hands of some observers, while others report failure.

Of 111 patients 32 (29 per cent.) recovered, 30 per cent. died, and in a number of these other diseases were present. There have been 32 autopsies on patients known to harbor *Balantidium coli* and to suffer from diarrhea and other symptoms, and in 28 there were ulcerations of the large intestine, but the type of ulcer does not appear distinctive. Parasites were found postmortem in 21 cases, and histologic studies were made in only 7. In Strong and Musgrave's case living parasites were found in all parts of the large intestine and in the lower 4 or 5 cm. of the ileum, and in this case, as well in Solojew's case, the parasites had invaded the coats and vessels of the large intestine. Polynuclear eosinophiles were numerous about the parasites. In an outbreak of dysentery among the orang-outangs in the New York Zoological Garden, Harlow Brooks demonstrated balantidia in the feces, as well as in the coats of the large bowel, which presented the same changes as in the recently studied human cases. In order that the parasites may be recognized in the tissues it is necessary to secure early postmortems, as dead parasites disintegrate quickly, so that they can not be recognized in the sections.

There are many points in connection with the pathogenesis of balantidium infection that require further study. Thus the question whether the balantidium by itself can penetrate the normal mucous membrane is still an open one. Furthermore, the meaning of the presence of the infusoria in the blood vessels of the intestine, now noted in several cases, raises some interesting problems. Strong's summary gives a good basis for further work along these lines.

2. Reported by Mitter, Inaug. Diss., Kiel, 1891.

SUICIDE PREVENTION.

The enterprising mayor of Cleveland, who has achieved a national reputation by his advanced ideas on sociologic matters, has appointed, it is said, an anti-suicide commission, that is, a body of experts who shall devise ways and means of preventing the despondent and destitute from self-destruction. Suicide is increasing and is becoming more than ever a matter for concern to the well-wishers of the race. Many suicides can undoubtedly be accounted for by mental aberration, either actual insanity or temporary morbid impulse. With the increase of insanity suicide would also naturally increase. It seems doubtful, however, that we can properly attribute the very notable increase of self-destruction to these causes alone. The too prevalent pessimistic tendencies of the present time are probably still more responsible. To a despondent and suffering individual who can see no prospect of betterment, suicide often appears to be a rational—though not at all a heroic or praiseworthy—procedure, and the impulse may easily overcome both the natural instinct of self-preservation, and the inherent fear of consequences in a future life. Purely ethical considerations alone will not prevent it, though they have their influence. While the actual pathologic causal factors above mentioned mainly interest us as medical men, we can not altogether overlook the social disease that we believe is the main cause of the growing evil of to-day.

POLITICAL INFLUENCE.

In the organization of modern society the currents and counter-currents of interest and prejudice are not always easy of determination. The profession of medicine should present to society active evidence of absolute solidarity on all questions affecting the public health. Of course, we are at times unable to agree on a line of conduct on some particular topic, but one of the great benefits of organization is the opportunity afforded to thrash out debatable points among ourselves and then to present to the world the digested result. Frequently it becomes necessary for the professional units to make their influence felt on some particular problem. In many cases all that the organization need do is to disseminate the facts, leaving to the individual the decision as to the part he will play, while in others it is necessary for the profession openly to declare itself. In the elections this year, so far as known, there was no instance of medical societies acting officially, but there

is reason to believe that in several states medical men had a share in bringing about the election of independent and reform candidates. In Philadelphia the medical men were in the front in the fight against the boodlers. In Ohio it is reported that professional sentiment was so strongly crystallized that five thousand physicians voted and worked against Governor Herrick, who was a candidate for re-election. The one chief reason for this unanimity of sentiment was the matter of the management of the Ohio Hospital for Epileptics, concerning which our readers were at the time kept fully informed. The governor gave aid and comfort to the politicians who wanted the "rake-offs" on contracts, even after the medical profession had in various ways urged him to an opposite course. The affront he put on the profession, however explained, could have but one result. As a sequence of this election it is hoped that all the charitable institutions of the state will receive a thorough investigation, following which better conditions seem assured. Probably also the unselfish counsel of the profession will not again be so lightly estimated. The result in Ohio should be an encouragement for physicians in other states to make every legitimate effort to bring about reforms, when necessary, in the conduct of state institutions.

THE NOSTRUM EVIL.[1]

When the program of the Section on Practice of Medicine for the Portland session announced that a paper was to be read on nostrums, the manufacturers and exploiters of these preparations became anxious. It was an innovation for one of the largest and most important sections to take up such a subject as this. The Section on Pharmacology and Therapeutics on several occasions had discussed the matter in a kind of a semi-official way; but this was different. What did it mean? Stenographers were engaged to find out and to report the paper in full, so that something might be done if it were possible and necessary. Pretty soon something was done. Evidently the paper hurt, for Dr. Billings and THE JOURNAL began to receive letters, some of them from lawyers, threatening all kinds of trouble if the paper should be published. Since the paper seemed to be so dangerous to the nostrum men, it was thought that it ought to have a larger circulation than it would if published in this journal only, and the state society journals were asked to aid in the publicity movement. This, too, came to the knowledge of those especially interested, and at least one of them sent an intimidating letter to the editors of the journals which it was believed might publish the paper. We rather think that few of the editors were sufficiently intimidated to prevent them from carrying out their original intention Consequently, the paper on the nostrum evil will have about as wide circulation as any paper ever had. In this connection we wish to thank those journals which have expressed such grave anxiety lest we get into trouble by printing matter that would in any way injure the nostrum manufacturers. We realize that it is an awful thing to do, but it's done.

1. The word "secret" in the title of Dr. Billings' paper—see first article in this issue—was marked to be omitted, but through an oversight this was not done.

THE YELLOW-FEVER CONTROVERSY.

"Whose fault was it?" This is the question New Orleans is endeavoring to answer. We have already referred to Dr. Joseph Holt's charges against the health officials. These have been followed by a most extraordinary occurrence. The Mississippi State Board of Health, it is reported, has adopted a resolution expressing its hope that Louisiana will retire the president of its State Board of Health and the health officer of New Orleans, Dr. Souchon and Dr. Kohnke, respectively. Dr. Kohnke has published a very full reply to Dr. Holt and to the Mississippi officials, in which he shows conclusively that there are two sides to the question, and that impartial decision will hardly be possible until there has been thorough, unprejudiced investigation of the facts. He makes the telling point that, while it since has seemed probable that yellow fever existed in New Orleans since April or May, there was nothing to arouse suspicion. The first case was reported on July 12, and inspection and fumigation were at once begun. The early cases were very mild and were not recognized as yellow fever by the attending physicians. It should not be overlooked that the early cases of an epidemic of any infectious disease are frequently so atypical and mild that even the expert diagnostician is misled, and hence that the first cases pass unrecognized, though no one can be held at fault. Those who hold the other view contend that the cases were recognized, but were concealed. Here is where nothing but knowledge of the facts can quiet the controversy or afford the outsider any opportunity for reaching conclusions. Until such knowledge is available, physicians will prefer to believe that mild unsuspected cases of yellow fever were unrecognized rather than that undoubted cases were deliberately concealed. Certainly, all will hope that such will prove to be the case. The chief count in the indictment against Dr. Souchon and Dr. Kohnke is that they gave no warning of the danger until after July 19, a date on which all the railroads ran cheap popular excursions into New Orleans from Mississippi, Louisiana, Alabama and Florida. It has been declared that this excursion was the chief factor in the wide simultaneous dissemination of the infection. At present one conclusion has emerged from the controversy—the old one that every city needs a stringently enforced and effective ordinance compelling physicians to report all infections. Without effective notification ordinances, heartily supported by professional opinion and action, similar calamities will from time to time recur.

The Profession's Future.—President Faunce of Brown University, addressing the Rhode Island Medical Society, said that the medical profession will advance in the next twenty-five years in toleration and breadth of horizon. "Not only intensively will the profession advance in mastery of its present instruments and methods, but extensively as well it must progress in fashioning new instruments, in recognizing new methods, and exercising genuine intellectual hospitality. A hospitable mind is the peculiar product of the scientific era. In the prescientific age, hospitality was a sign of weakness and source of danger. . . . We now see that intolerance is the child of uncertainty. The man who is not sure of his position is afraid to meet the men who differ from him; the man who is quite certain of his own established faith is glad to listen to voices that speak from any quarter of the horizon."

Medical News

ILLINOIS.

Will Have Wisconsin Society for Guest.—The Winnebago County Medical Society at its meeting in Rockford, Jan. 9, 1906, will entertain the Central Wisconsin Medical Society. It is expected that more than fifty physicians from Wisconsin will be present.

Change in Classification.—The state civil service commission on November 22 rescinded its recent action dividing the classified service into seven branches and enacted a new rule embodying ten classes of employes. Under the medical service the following are included: Assistant physicians in insane hospitals, physicians, surgeons, pathologists, oculists, pharmacists, apothecaries and druggists.

Diphtheria.—A number of cases are reported in Moline.——The secretary of the State Board of Health has announced that promiscuous use of slate and lead pencils in public schools is responsible for the spread of contagious diseases, with especial reference to diphtheria.——Diphtheria is prevalent at Metcalf and the schools and outbuildings have been thoroughly disinfected.——There is said to be much diphtheria in Granville and Ladd, but the epidemic in Spring Valley is now declared to be under control.

Tent Colony to be Dedicated.—The Ottawa tent colony, which was established a little more than a year ago, to demonstrate the possibility of cure of tuberculosis in this climate, has been quite successful, as was anticipated. Extensive improvements have been made to meet the increased demand and to make the treatment more attractive. To increase the educational value of this colony the dedicatory exercises will be held at Ottawa December 12. The program will include short addresses by physicians and laymen. Excursion rates will be in force from all points in Illinois.

Per Capita Cost at State Institutions.—The report of the Illinois Commissioners of Public Charities for the quarter ended September 30 gives the following as the per capita cost of the various state institutions: Illinois Western Hospital for the Insane, Watertown, $26.21; Illinois Eastern Hospital for the Insane, Hospital, $30.05; Illinois Hospital for the Incurable Insane, South Bartonville, $30.32; Illinois Central Hospital for the Insane, Jacksonville, $31.27; Illinois Southern Hospital for the Insane, Anna, $35.13; Illinois and Northern Hospital for the Insane, Elgin, $38.67, and Illinois Asylum for Insane Criminals, Menard, $50.43.

Evanston Hospital.—At the annual meeting of the Evanston Hospital Association, November 14, the president began his report by quoting the notice which appears on the gate of the London Hospital: "The passport for admission is sickness or injury combined with poverty. No letters required." The records of the Evanston Hospital show that during the fiscal year 85 free patients were admitted, or more than 25 per cent. of the total number of patients received during the year. In the children's ward 22 patients were admitted, 14 of whom were free patients. The total number of days' service during the year was 7,561, or 622 days more than last year.

Society Indorses New Army Medical Bill.—The Adams County Medical Society, at its meeting November 13, adopted the following resolution, which concluded with an indorsement of the bill to increase the efficiency of the Medical Department of the United States Army as drawn up by the surgeon general of the Army and approved by the President:

> WHEREAS, Seven years have elapsed since the country was shocked by the disgraceful sanitary conditions which prevailed at Chickamauga, Jacksonville and Camp Alger during the Spanish War, and yet no successful effort has been made to remedy the inadequacy and faulty organization of the medical department of the United States Army to which this utter failure of military sanitation was chargeable, and,
>
> WHEREAS, The continuance of these discouraging conditions is depleting the army medical service of its best men by resignation, and deterring the brightest minds of the profession from seeking a future in so promising a field, therefore,
>
> *Resolved*, That in the judgment of this society the situation is so critical as to demand immediate measures for relief.

Chicago.

Personal.—Dr. Albert Goldspohn has donated $25,000 for the erection of a science hall at the Northwestern College, Naperville.

Hospital Permit.—A building permit was issued November 22 for the Chicago Policlinic to erect a six-story brick hospital at 319 to 331 La Salle Avenue.

Sale of Dangerous Drugs Prohibited.—The city council at its meeting November 20 passed the amendment to the ordinance prohibiting the sale of morphin and similar drugs, so that they can be obtained only on the prescriptions of physicians or dentists.

Hospital Dedicated.—The St. Bernard's Hotel Dieu in Englewood was dedicated with impressive ceremony November 21 by Archbishop Quigley. The building is five stories high, as nearly fireproof as modern science can make it, and will accommodate 280 patients.

Expenditures for the Poor.—At the forty-eighth annual meeting of the Chicago Relief and Aid Society, held November 13, the president reported that the society had spent $26,400 in the direct relief of the poor during the fiscal year. A new feature of the work was the fresh air station for sick babies and the visiting nurse association. The society now controls 160 hospital beds.

Secures One Dollar Verdict.—In Judge Gary's court November 17 a jury awarded Mrs. J. Jessen one dollar damages from Dr. Henry J. Burwash, whom she had sued, together with the Hospital of St. Mary of Nazareth, for $10,000 damages, alleging that an unnecessary operation had taken place resulting in the death of her son two years ago, and that the body of her son had been mutilated.

Deaths of the Week.—The total deaths from all causes for the week ended November 25 were 471, equivalent to an annual death rate of 12.34 per 1,000. The number of deaths is 39 less than for the preceding week, and 46 more than for the corresponding week of 1904. Pneumonia continues to lead the death causes with 73, followed by consumption, with 60; nephritis, with 49; heart diseases, with 42; violence, including suicide, with 39; acute intestinal diseases, with 25, and cancer, with 20.

IOWA.

Do Not Wish Names Mentioned.—At a recent meeting of the Scott County Medical Society resolutions were adopted to the effect that the editorial departments of the various papers be requested not to mention the names of physicians in connection with medical services, operations or accidents.

Hospital Notes.—St. Joseph's Mercy Hospital, Webster City, was dedicated and opened November 16.——Mrs. E. Tillotson, Highlands, N. J., has given $1,000 to the Ottumwa Hospital Association in memory of her father, the late Dr. William M. Murdock of Urbana, Ohio.——Dr. William H. Corrigan is about to open an emergency hospital in Rockwell.

Personal.—Dr. Frank W. Smith and family, Red Oak, returned October 29 from a trip to the Pacific Coast.——Dr. Cassius C. Cottle and family, Marshalltown, will spend the winter in southern California.——Dr. Thomas E. Livingston Bode expects to spend the winter in California.——Dr. E. R. Wallizer, Des Moines, has been committed to the Clarinda State Hospital.

Illegal Practitioner Found Guilty.—J. C. Wilhite, Fort Dodge, a so-called "doctor of neurology," was found guilty November 18 of the illegal practice of medicine. The defendant admitted that he did not attempt to treat diseases, but that he had advised patients how to treat themselves. Notice of appeal to the supreme court was filed. The heaviest penalty possible is a fine of $3,000.

Epidemic Diseases.—The Board of Health of Dubuque has ordered all the schools and churches of that city to be fumigated because of an epidemic of typhoid fever.——Since October 1 more than sixty homes in Sioux City have been placed in quarantine on account of diphtheria and scarlet fever.——A large number of cases of typhoid fever have developed in and around Ames in the last few weeks.——A mild epidemic of diphtheria and scarlet fever exists in Waterloo.——Typhoid fever has assumed alarming proportions in Estherville.——An epidemic of typhoid fever exists in the Iowa Institution for the Feeble-minded, Glenwood.

KANSAS.

Loss by Fire.—The office of Dr. Silas A. Boam, Topeka, was destroyed by fire, supposed to be of incendiary origin, October 23.

Personal.—Dr. Ambrose Weber has purchased the practice of Dr. D. H. Horner, Perth.——Dr. William C. Bower, Lebanon, has been appointed local surgeon for the Rock Island Railway system.

Kansas University.—The contract for the hospital building for the State University Medical School, Rosedale, has been let. The estimated expense of the building will be $100,000.——The clinical department of the school, located in Kansas City, Kan., is now in good working order and the hos-

pitals of Kansas City, Mo., have opened their doors to the students.——A free eye clinic has been opened by the college at the German Hospital, Kansas City, Mo.

Diphtheria.—The public school at Stone City has been closed on account of diphtheria.——During October, four deaths resulted from diphtheria and 60 cases were reported in Leavenworth.——The public schools in Abilene have been closed on account of diphtheria.——The public schools at Arkansas City have been closed indefinitely in the hope of preventing an epidemic of diphtheria.——More than 50 cases of diphtheria are under treatment at Moline.——The schools at Mound Valley have been closed on account of an epidemic of diphtheria.

MARYLAND.

Personal.—Dr. Richard C. Harley has resigned as health officer of Laurel.——Dr. John Mace, Cambridge, has been appointed lieutenant in the Maryland Naval Reserves and assigned to duty with the Cambridge division.——Dr. James M. Spear, Cumberland, has been appointed local surgeon for the Western Maryland Railroad.——Dr. Washington G. Tuck, Annapolis, has resigned the chairmanship of the Republican state central committee.——Dr. John E. Bolte, Harrisonville, resigned as sanitary physician for the second district of Baltimore County November 21, and Dr. Harry F. Shipley has been appointed in his place.——Dr. John W. Lacy, Lisbon, returned from Europe on the *Oceanic*, arriving in New York October 25.

Baltimore.

A Poor Response.—In answer to the appeal for $6,000 by the Maryland Association for the Prevention and Relief of Tuberculosis for a year's campaign against the "white death". $627 have been received to date.

Matriculants.—The number of matriculants in the University of Maryland School of Medicine for the present session is 331, not 99 as erroneously stated in THE JOURNAL last week.——At the Johns Hopkins University there is a total enrollment of 293 in the medical department.

Died in Prison.—Mrs. Emma O. Lewis, who was sentenced on June 30 to three years' imprisonment in the state penitentiary for performing a criminal operation and for whose pardon a petition was being circulated, died in the penitentiary October 25 from the results of despondency.

Vital Statistics.—The number of deaths for the week ended November 25 was 220, a number larger than for the same period for several years, the annual death rate represented being 19.95 per 1,000. The chief causes of death were: Consumption, 30; pneumonia, 29; Bright's disease and organic heart disease, each 19; bronchitis, 9, and typhoid fever, 8. There were 2 deaths attributed to grippe and only 2 to cancer.

Home from Europe.—Dr. and Mrs. William Green have returned from Europe.——Dr. and Mrs. T. Caspar Gilchrist have returned after a summer in Europe.——Dr. William H. Welch, who spent the summer abroad, has returned.——Dr. William Whitridge has returned from Europe.——Dr. John M. T. Finney, surgeon general of the state, has returned after a summer in Europe.——Dr. and Mrs. Maurice Bloomfield have returned after a summer abroad.

Personal.—Health Commissioner Bosley has announced the following appointments: Medical inspectors of public schools (reappointed), Drs. Isham R. Page, J. Hal Pleasants, (new appointments), Drs. J. Howard Iglehart, A. Duvall Atkinson and W. H. Clendenin Teal. The appointments take effect December 1, the salaries being about $900 per annum.——Dr. Eugene F. Cordell read a paper by invitation before the historical section of the College of Physicians of Philadelphia, November 29, on "Joseph Roby, the Anatomist."——Dr. G. R. Holden has resigned as resident gynecologist at Johns Hopkins Hospital and Dr. Stephen Rushjore has been elected in his place. Dr. H. M. Little, resident obstetrician at the same institution, has resigned and Dr. F. C. Goldsborough has been elected his successor.——Dr. Fannie E. Hoopes sailed for Europe early this month.——Dr. Robert T. Wilson has been elected president of the Hospital Relief Association of Maryland.

Dr. Hemmeter Honored.—A number of prominent physicians met in the home of Dr. John C. Hemmeter, November 15, and presented him with a handsome oil painting of himself in commemoration of the twentieth anniversary of his doctorate. Supervising Surgeon-General Walter Wyman, United States Public Health and Marine-hospital Service, in behalf of the ninety-five subscribers, made the address of presentation, in which he stated that Dr. Hemmeter had demonstrated in his life the great truth that a man may be a great physician and yet eminent in other walks of life, cultivating to a high degree a love of the beautiful and good as well as the true, and that in appreciation of intellect and broad manhood alike, his friends had been prompted to present to him this testimonial. Drs. Thomas A. Ashby and Charles G. Hill also spoke in praise of Dr. Hemmeter and of his work. In Dr. Hemmeter's reply he made an appeal for idealism in medicine because of his conviction, as he expressed it, that:

> The sphere of action of the medical man is threatening to become too narrow and disregard for high ideals in medicine has led to the temptation of too narrow an exclusiveness for the applied feature of this art of science; a disregard for ideals can not fail to develop commercialism in medicine, a vice already strongly raising its head through the multiplicity of medical schools in this country.

Dr. Hemmeter further said:

> Scholars and practitioners in medicine have been keenly alive to law and knowledge and material fact, but they have been occasionally blind to art, to poetry, to emotion, to the philosophy of the classics and to the higher mental and spiritual environment which inspires and glorifies the realms of their magnificent science.
>
> One of my cherished wishes is for the reduction of the number of medical schools by consolidation of three of the leading institutions. Those of us who have the conduct of these schools as part of our duties should not be hopeless of attaining this end, for reason and the collective wisdom of our representative medical colleagues should soon find some effective means of bearing down those obstacles, which individual shortsightedness, selfishness and passion oppose to all improvements and by which the highest hopes are continually blighted and the fairest prospects marred.

After the presentation those present were entertained at a luncheon supper by Dr. and Mrs. Hemmeter.

NEW JERSEY.

Personal.—Dr. John P. Henry, Jersey City, has resigned as a member of the board of health.——Dr. Edward J. Ill, Newark, who was operated on November 12, is convalescing.

Medical Examinations Inaugurated.—The Atlantic City Medical Examining Board began its work in the public schools October 22, under the direction of the city health officer, Dr. Edward Guion.

Medical Library Association.—Physicians of Newark are putting into working shape the plans for the medical library association which was organized November 18. The librarian of the Newark Public Library announces that there will be no abridgment of the rights or privileges of the public, and that while the Medical Library Association will be a distinct organization, the books purchased by it will be free for the use of the general public. He states that so far as the library is concerned the new association will merely be a medical department of the institution. The association has adopted a constitution providing for an initiation fee of $3 and dues of $3 per year. Dr. Charles J. Kipp was elected president; Dr. Henry L. Colt, vice-president, and Dr. Frank W. Pinneo, secretary and treasurer.

NEW YORK.

Epidemic Diseases.—Scarlet fever is prevalent among the pupils at the Robinson street school, Binghamton.——The South street school, Utica, has been ordered closed on account of scarlet fever and diphtheria.

Utica Has New Hospital.—The new St. Luke's Hospital, Utica, the gift of Mr. and Mrs. Frederick F. Proctor, has been handed over to the board of trustees, paid for and completely furnished with modern medical and surgical appliances.

Personal.—Mayor-elect Adams has appointed Dr. Ernest Wende, who was for eight years health commissioner of Buffalo, health commissioner, to take effect Jan. 1, 1906. Dr. Francis E. Franczak was appointed assistant health commissioner.——Dr. and Mrs. Daniel B. Hardenbergh, Middletown, reached New York from Liverpool on the Baltic, Nov. 10.——Dr. Alfred Mercer, Syracuse, celebrated his eighty-fifth birthday anniversary Nov. 14.

Hospital News.—The German Hospital fair, at Buffalo, is believed to have netted about $15,000 for the institution.——Ellis Hospital, Schenectady, received $2,531.30 as the annual contribution from the churches of the city.——The Binghamton State Hospital asks for an appropriation for improvements amounting to $125,000. This includes the erection of a hospital building for acute cases.——The W. C. A. Hospital, Jamestown, has been bequeathed $1,000 by the will of the late Fred A. Bentley.——The dedicatory exercises of the Little Falls Hospital occurred Nov. 13 in the new hospital building.

New York City.

Same Death-Rate.—The death-rate for the week ended November 18 was exactly the same as in the corresponding week of 1904, namely, 16.48 per 1,000. Cold weather increased the number of deaths from pneumonia.

Pure Food Legislation.—The New York section of the Council of Jewish Women held a mass meeting in support of pure food, December 2, at Mendelssohn Hall, at which United States Senators W. B. Heyburn and P. J. McCumber, Dr. Harvey W. Wiley, chief of the Bureau of Chemistry, Department of Agriculture, and others, delivered addresses.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended November 18, 419 cases of tuberculosis, with 174 deaths; 286 cases of diphtheria, with 17 deaths; 253 cases of measles, with 6 deaths; 132 cases of scarlet fever, with 4 deaths; 84 cases of typhoid fever, with 16 deaths; 10 cases of cerebrospinal meningitis, with 9 deaths, and 137 cases of varicella.

Personal.—A reception to Dr. Suzuki, surgeon-general of the Imperial Japanese navy, was given in the Farmington rooms of the New York Exchange for Women's Work, November 24.——Dr. E. C. Podvin has been elected a member of the staff of the new Philanthropic Hospital at Williamsbridge. ——Dr. Robert F. McDonald has been elected a member of the Board of Coroners of the Bronx.——Dr. G. A. Hare has gone to Fresno, Cal.

For New Jewish Hospital.—A large fair for the benefit of this institution was opened on November 27. The entire cost of the hospital was $311,000, and there is still a shortage of $111,000. It will cost $100,000 a year to run the hospital at its full capacity of 175 beds. Six thousand dollars has already been contributed toward an endowment fund. During the past year there have been 20,767 persons treated at the dispensary connected with this hospital.

To Admit Non-Sectarians.—A resolution has been formulated by members of the Medical Society of the County of Kings looking to the admission of others than those connected with the so-called regular school. It considers the advisability of admitting to membership graduates of eclectic and homeopathic schools who agree to practice non-sectarian medicine. It is announced that a board of censors will see to it that any man admitted to the society shall be morally and medically fit.

OHIO.

District Society Meeting.—The second annual meeting of the First Councilor District Medical Society was held in Cincinnati November 17. Dr. John C. Larkin, Hillsboro, was elected president; Dr. Robert Carothers, Cincinnati, secretary, and Dr. Walter E. Murphy, Cincinnati, treasurer.

Hospital Dedicated.—The Memorial Hospital, Piqua, was formally dedicated November 30. Drs. Asa S. Ashton, Kesley W. Beauchamp, Francis M. Hunt, Ramsey L. Hyde, Robert L. Kunkle, Ada L. Malick, Levi E. Reck, Parker L. Snorf, Lloyd D. Trowbridge, William N. Unkefer and H. H. Gravitt made up the reception committee.

Personal.—Dr. Charles Biers, Painter Creek, has gone to Jacksonville, Fla., for his health.——Dr. Alexander M. Steinfeldt, Columbus, who is studying in Vienna, has been appointed voluntary assistant in the ambulatorium of Dr. Lorenz. ——Dr. George H. Wilson has been appointed local surgeon of the Baltimore & Ohio Railroad at Painesville.——Dr. Orville A. Rhodes, Salem, has started for the Pacific Coast.

PENNSYLVANIA.

Married Many Years.—Dr. and Mrs. Philip S. P. Walter, Nazareth, celebrated their golden wedding anniversary November 6.

Epidemics.—Diphtheria is said to be epidemic at McKinley. ——Four deaths have occurred from diphtheria in Hamburg. ——Measles is reported to be epidemic in the Soho district of Pittsburg.

Practiced Without License.—Dr. H. O. Sampsel, Scottdale, convicted November 19 of practicing medicine without a license, was sentenced to pay a fine of $50 and costs. On account of the prisoner's inability to pay he was committed to jail.

The Vaccination Question.—The Department of Health dismissed 511 unvaccinated pupils from the public schools of Chambersburg November 1.——The Pottsville Board of Health has barred out 300 pupils from the public schools because of lack of vaccination.——At Selinsgrove 60 children were dismissed from the public schools November 13 on account of not having vaccination certificates.——Because she refused to allow her son to be vaccinated, according to the provision of the compulsory school law, Mrs. Victoria Moulton, East Lemon, has been twice imprisoned by order of court, the first time for two days and the second for five.

Personal.—Dr. Charles Rae, York, fractured one of the small bones of his foot while exercising at a gymnasium November 3.——Dr. George H. Halberstadt, Third Brigade, N. G. Pa., while returning from Philadelphia to his home in Pottsville, was struck on the head by a large stone which was thrown through the window of a car in which he was seated. He was rendered unconscious and a deep gash was inflicted.—— Dr. William R. Brothers, Tamaqua, has been placed in charge of a new medical examiner's district of the Reading Railway System at Harrisburg.——Dr. Oliver L. Blachly, Wilkinsburg, and family, have gone to Pasadena, Cal.——Dr. Henry W. Saul, Kutztown, has been appointed physician to the Keystone State Normal School in that place.

Hospital News.—The medical staff of the Chester Hospital held a meeting November 11 and reorganized, re-electing Dr. Jonathan L. Forwood president of the staff and Dr. Leon Gottschalk, secretary. Dr. Forwood was also made chief of the surgical staff, which comprises Drs. F. Farwell Long, Samuel R. Crothers, Lewis H. Crothers and Leon Gottschalk. Dr. Daniel W. Jefferies was chosen chief of the medical staff, which includes Drs. Ellen E. Brown, Katherine W. Ulrich, Edward W. Bing and Frederick H. Evans.——The directors of the Chambersburg Hospital have elected the following staff: Dr. Charles F. Palmer, Henry X. Bonebrake, Robert W. Ramsey, David Maclay, W. Frank Skinner, Henry C. Devilbiss, John C. Greenewalt, P. Brough Montgomery, L. Frederick Suesseprott, Johnston McLanahan and John P. Seibert.

Communicable Diseases Designated.—The state commissioner of health has sent a circular letter of instructions to every physician in the state, calling attention to the regulation of the department of health requiring a report of all contagious diseases to the secretary of the board of health of the city or borough in which the case occurs. The following is the list of diseases: Actinomycosis, anthrax, bubonic plague, cerebrospinal meningitis, chickenpox, cholera, diphtheria, epidemic dysentery, erysipelas, German measles, glanders, hydrophobia, leprosy, malarial fever, measles, pneumonia, puerperal fever, relapsing fever, scarlet fever, smallpox, tetanus, trachoma, trichiniasis, tuberculosis, typhoid fever, typhus fever, whooping cough and yellow fever. The so-called "membranous croup," "diphtheritic croup," or "putrid sore throat," is to be reported as diphtheria, and the so-called "scarlatina" and "the scarlet rash" as scarlet fever. The department of health will furnish blank notices for reporting contagious diseases, and the state pays for the postage on these notices.

Philadelphia.

Martin's Successor.—On November 27 Dr. William M. Late Coplin, professor of pathology and bacteriology, Jefferson Medical College, and director of the Jefferson Hospital laboratories, was appointed by Mayor Weaver, director of health and charities of Philadelphia, vice Dr. Edward Martin resigned. Dr. Coplin served as a member of the commission to organize the bureau of bacteriology, and later as a member of the Civil Service Commission. During the cholera epidemic in 1892 he was appointed an officer in the United States Marine-Hospital Service and acted as inspector of immigrants. At this time he established an emergency service in large industrial establishments where cases of communicable disease, heat stroke, etc., might be early diagnosed and promptly treated. He was bacteriologist to the State Board of Health, and is at present a member of the non-partisan commission to formulate laws to govern the disposal of tuberculous animals. He is a member of the American Medical Association, American Public Health Association, all the more important medical societies, and is president of the Philadelphia Pathological Society. He has served on the staffs of four hospitals and has held chairs in three medical colleges. His contributions to medical literature have been many and varied. His "Manual of Pathology" has reached a fourth edition, and a second edition of his "Manual of Practical Hygiene" is in process of preparation.

TENNESSEE.

College Opens.—The seventeenth annual session of the Tennessee Medical College, Knoxville, opened November 1. The Lincoln Memorial Hospital, in connection with the college, will be ready to receive patients early in December.

Commencement.—The commencement exercises of the Medical Department of the University of the South, Sewanee, were held October 26. Dr. Hampton L. Fancher, Orme, delivered the charge to the graduating class, which consisted of 27 members.

New College.—Drs. Heber Jones, J. C. Elliot, J. A. Crisler and Maximilian Goltman made applications for a charter November 15 for the College of Physicians and Surgeons of Memphis. The capital stock of the corporation is fixed at $40,000. The building is planned to cost not less than $60,000.

Middle Tennessee Physicians Meet.—The Middle Tennessee Medical Association held its annual session in Lebanon November 17-18, and elected the following officers: Dr. Charles N. Cowden, Fayetteville, president; Dr. Lynn B. Graddy, Nashville, vice-president, and Dr. William Litterer, Nashville, secretary and treasurer.

Personal.—Dr. Heber Jones, president of the Memphis Board of Health, has been presented with a purse of $10,000 in appreciation of his successful efforts in maintaining a prohibitive quarantine during the recent epidemic of yellow fever in the South.——Dr. Philander D. Sims, recently appointed city physician of Chattanooga, has selected as his assistant, Dr. John B. Steele.

TEXAS.

Personal.—Dr. Edmund B. Parsons, Palestine, has been made physician for the jail and county camps, and Dr. Henry R. Link for the county farm.

Colored Physicians Meet.—The Lone Star Medical Association convened November 15 in Houston and remained in session two days. The following officers were elected: President, Dr. Benjamin R. Bluitt, Dallas; vice-president, Dr. Gordon Phippe, Corsicana; secretary, Dr. Benjamin J. Covington, Houston, and treasurer, Dr. J. H. Wilkins, Victoria. The association will meet in Dallas next year.

Hospital News.—The All Saints' Hospital Association, Fort Worth, has opened its recently completed hospital building. ——A new hospital and sanatorium is being planned for San Angelo, to be conducted by Sisters of Charity.——The Charity Hospital endowment fund, Houston, has received $30,000 of the $40,000 required for the erection of the building. The site and $20,000 have been given by Mr. George Herman.

VIRGINIA.

Board of Health.—The thirty-third annual report shows that the total number of deaths for 1904 was 1,876; white, 858; colored, 1,018, a decrease over the previous year of 59 from all causes. The annual rate of mortality on the whole population was 18.76 per 1,000. The death rate of the white population was 13.76 per 1,000, and that of the colored 24.49 per 1,000.

Tuberculosis Sanitarium at Ironville.—At a recent meeting held in Richmond of the officers of the Virginia Sanitarium for Consumptives, it was decided if possible to consolidate this society with the organizations of the Associated Charities and of the Medical Society of Virginia. It was contended that there was little use for three societies working for the same ends, but along different lines. It is now the object to bring about co-operative effort and harmony in order that the legislature may be petitioned to take the matter in hand and erect a state sanitarium.

GENERAL.

American Tuberculosis Exhibition.—This exhibition is now being held in New York, as announced in THE JOURNAL last week.

Yellow Fever in Cuba.—The health department hopes to stamp out the yellow fever infection and is disinfecting all places where fever cases have occurred. The plague of mosquitoes which was present all summer continues.

N. S. Davis District Medical Association.—The Northeast Missouri Medical Association, which has been reorganized as the N. S. Davis District Medical Association in honor of the late Dr. N. S. Davis, held its second annual meeting in Keokuk, Iowa, November 14. The following officers were elected: President, Dr. William B. Sisson, Kahoka, Mo.; vice-presidents, Drs. Charles L. Russell, Keosauqua, Iowa, and Robert M. Lapsley, Keokuk, Iowa, and secretary and treasurer, Dr. John E. Parrish, Memphis, Mo.

Railway Surgeons Meet.—The Cincinnati, Hamilton & Dayton Railway Surgeons' Association held its annual meeting in Dayton, November 14. The question of merging the association with the Association of Surgeons of the Erie Railway was discussed, but no definite action was taken. The election of officers resulted as follows: President, Dr. Frederick D. Barker, Dayton, Ohio; vice-presidents, Drs. Frederick W. Robbins, Detroit, Mich.; Samuel E. Munson, Springfield, Ill., and William S. Hoy, Wellston, Ohio; secretary, Dr. Mark Millikin, Hamilton, Ohio; and treasurer, Dr. William A. Galloway, Xenia, Ohio.

The Edward N. Gibbs Memorial Prize.—The New York Academy of Medicine announces that the sum of $1,000 will be awarded to the author of the best essay on "The Etiology, Pathology, and Treatment of the Diseases of the Kidney." An essay must show originality in order to obtain the prize. The competition is open to the members of the regular medical profession of the United States. Essays must be received on or before January 1, 1907, by the recording secretary of the New York Academy of Medicine, at 17 West Forty-third street. The prize is awarded triennially. In 1902, two essays were received, but no prize was awarded, as, in the opinion of the trustees, neither of the essays was worthy of it.

Plague in Hawaii.—Passed Assistant Surgeon Hobdy, of the Public Health and Marine Hospital Service, reports two fatal cases of plague in Honolulu during the latter part of October. A Chinaman, admitted to the hospital with symptoms of plague, died, and the autopsy confirmed the diagnosis. The second patient was a woman who died after an illness of four days. The case was reported as suspicious by the attending physician, a Japanese, but unfortunately his suspicions did not develop till after the patient's death. Autopsy showed conclusively that the death was due to plague. In this case, Dr. Hobdy states that there were many contacts and he instituted outgoing quarantine. This action, he says, was necessary because of the large number of Japanese who were to leave for the coast two days later. Dr. Hobdy also reports other deaths which seemed suspicious, and some of which were proved by autopsy to have been due to plague.

Report of the Surgeon General of the Navy.—In his annual report for the year ending June 30, 1905, Surgeon-General Rixey states that the medical corps of the Navy is at a disadvantage in the mind of a prospective candidate because of the fact that the assistant surgeon of the Navy while on shore duty receives 15 per cent. less than his army colleague. Dr. Rixey believes that the removal of this apparent discrimination will be of service in successfully recruiting the corps. In reviewing the work of the service he mentions the development of the naval stations at Charleston, S. C., and at Guantanamo, Cuba, and invites attention to the fact that no provision has been made for a naval hospital at either place. The need for a hospital at Guantanamo, he states, is immediate and urgent from the fact that naval vessels are frequently at that place and there are no hospital facilities available. The report includes detailed statistics of the health of the navy and of the marine corps during 1904.

FOREIGN.

Prussian Convalescent Home for Army Officers' Wives and Daughters.—A convalescent home for the members of the family of underofficers in the Prussian army has just been inaugurated at Idstein in Taunus.

Correspondence of Frederick the Great With Physicians.—The Prussian Academy of Sciences has granted $200 to Dr. G. L. Mamlock to aid in the publication of the correspondence between Frederick the Great and various physicians.

Smallpox and Yellow Fever in Brazil.—Consul Ayme, at Para, reports that the epidemic of smallpox is assuming serious proportions and that there are about 20 new cases daily. He also states that there has been a great deal of yellow fever lately.

General Inspector of the Insane at Berlin.—Besides the three asylums for the insane or feeble-minded at Berlin, a large number of idiots and epileptics are boarded out in private establishments. A central office for the entire system has just been organized and given in charge to the director of the asylum at Lichtenberg, Dr. Moeli, who has been appointed general superintendent of the insane in the Berlin district.

Witchcraft Approved in the German Courts.—A woman was sentenced at Coburg to three months' imprisonment for obtaining money under false pretenses by alleged medical practices. During the appeal proceedings a large number of witnesses testified that there had been no deception, that the woman had unmistakably fulfilled her promises to conjure witches and cure sick cows by her words, and that the witnesses had not been defrauded in any way. The suit against the woman was therefore dismissed.

Three Years' Confinement for Drunkards in Great Britain.—It has been announced that greater stringency is to be observed in the working of the English inebriates act. It has been found that permanent good can not be effected by confining persons in an inebriates' home for one or two years,

and the judges have been requested to suggest to the justices that all these individuals should be sent to homes for three years, because in almost every case in which the individual was confined in a home for three years success had been attained.

Physicians Protest Against High Price of Meat in Germany.—One of the official medical organizations of Munich has published a public protest against the present high price of meat. It calls the attention of the authorities to the inevitable injury to health, both for the present and the rising generation, from the prevailing high prices of the most important articles of food, especially meat. The protest asks for reduction in customs duties and abolition of measures restricting importation of canned and dried meats. As physicians and hygienists the subscribers urge that steps should be taken at once to prevent further deterioration of the health of the people of Bavaria.

The Royal Society Medals.—The Royal Society (Great Britain) has awarded medals to Prof. Charles Scott Sherrington, F.R.S., for his researches on the central nervous system in relation to reflex action; to Prof. John Henry Poynting, F.R.S., for his researches in physical science, especially in connection with the constant of gravitation and the theories of electrodynamics and radiation; the Copley medal to Prof. Mendeléef, of St. Petersburg, for his contributions to chemical and physical science; the Davy medal to Prof. Albert Ladenburg, of Breslau, for his researches in organic chemistry, especially in connection with the synthesis of natural alkaloids, and the Hughes medal to Prof. Augusto Righi, of Bologna, in recognition of his experimental researches in electric science.

Postgraduate Course in Professional Organization Matters and Contract Practice.—The *Leipziger Verband* has arranged for a series of lectures on these subjects to be delivered at Berlin to medical students and recent graduates under university auspices. The lectures are to be delivered Friday evenings, commencing in November. The first is to be by Kähler, on "The Physician and the Public"; the second, by A. Peyser, on "Organization of the Medical Profession"; the third by R. Lennhoff, on "The Physician and Sickness Insurance Societies"; the fourth, by H. Joachim, on "Demand and Supply of Medical Positions"; the fifth, by Davidsohn, on "Medical Benevolent Institutions"; the sixth, by Benach, on "Medical Insurance," and the seventh by Hesselbarth on "Legal Protection of the Physician." It is proposed to follow this series with another on allied themes in the next semester, and to publish the addresses in pamphlet form to reach a wider audience.

Surgeon's Responsibility in Case of "Chloroform Death."—A French surgeon was sued for $10,000 on account of the death of a patient from syncope during the commencement of anesthesia. The court decided that the surgeon's technic was flawless, but that he had omitted to warn the patient and his family of the dangers of chloroform anesthesia in general, especially for persons more or less addicted to alcohol, as was the patient in the case. The judge stated: "As the operation was not undertaken for vital reasons, but merely for the reduction of a dislocated shoulder, the surgeon should have explicitly informed the patient and his family, and have obtained their consent before undertaking the administration of chloroform for an operation that was not strictly necessary. In case of vital necessity, the surgeon has only his science and his conscience to consult, but in the case in question this does not apply." The surgeon was sentenced to pay $1,600 and costs. The full text of the decision is given in the *Gaz. Med. Belge* for November 9.

British Physicians Honored.—King Edward, on the occasion of his birthday, knighted Dr. James Barr, physician to the Royal Infirmary, Liverpool, and lecturer on clinical medicine in University College, Liverpool; Mr. Arthur Chance, president of the Royal College of Surgeons in Ireland, surgeon to the Mater Misericordiæ Hospital, Dublin, formerly; Dr. Theodore Thomson, one of the medical inspectors of the local government board, has been made a companion of the Order of St. Michael and St. George, in recognition of services rendered in connection with sanitary matters to the foreign office and colonial office; he has represented Great Britain at international sanitary conferences. The same honor was conferred on Dr. Marc Armand Ruffer, president of the Egyptian Sanitary Board, distinguished for his researches in bacteriology and pathology; and on Dr. Featherstone Cargill, first class resident in the Protectorate of Northern Nigeria. Sir Felix Semon, C.V.O., physician extraordinary to his majesty, has been advanced to be a Knight of the Royal Victorian Order.

Enteric Fever in the British Army.—Dr. H. E. Leigh Canney, an acknowledged authority on the subject, recently delivered an address on "The Toleration of Enteric Fever by the British Army." His address was a strong indictment of the lack of medical organization that prevailed in the army. He declared that the condition of the British army at Bloemfontein was precisely similar from the point of view of sanitary organization to that of the royalist and parliamentarian armies in 1642, when both sides being close together could not fight on account of disease. Figures were given showing that the incidence of typhoid fever in the British army represented in India and South Africa was extremely large when it was realized that the incidence of this disease in the army in Great Britain had been reduced to one-seventeenth of what it was between 1837 and 1846; at Gibraltar, to one-eighteenth, and at Malta to one-fortieth. The condition in India, he said, was comparable only, though considerably worse, with that of the army of England, long before sanitation was known, and the condition in South Africa was more serious still. Dr. Canney said that he is in favor of a "school of sanitation for officers" being established forthwith as well as a handbook of sanitation for the field and barrack being provided for officers.

To Prohibit Use of White Lead.—One of the Paris daily papers recently organized a public scientific meeting to agitate the question of the suppression of white lead. It was held Saturday evening in the Trocadero hall, and Dieulafoy presided, with Brouardel and other prominent physicians and hygienists on the platform. The principal address was made by Mosny, who stated that in his small service at the Saint Antoine hospital, with only 60 beds, he averages 23 cases of lead poisoning every year. He drew the picture of the slow poisoning from the use of white lead in paints, etc., and discussed the measures necessary to prevent it, and save a large class of citizens and their descendants from insidious physical injury. Whether official regulation, substitution of zinc for lead, or prohibition of the use of white lead would prove most effectual he did not venture to decide. Regulation has been tried, but met with such opposition on the part of the proprietors that the regulations were never successfully enforced. The substitution of zinc white for white lead was also officially decreed in France at one time, but the higher price of the zinc caused the surreptitious use of the lead to such an extent that the regulation became practically a dead letter. The complete prohibition of the use of white lead is opposed only by the manufacturers of the latter. A bill has been passed by the chamber of deputies and is now before the senate, forbidding the use of white lead completely, but giving the manufacturers four years in which to close up their establishments. Several of the speakers emphasized the importance of training the young in hygiene in regard to prevention of lead poisoning. Adults seldom realize its importance until too late.

Organization of the Profession in Bohemia.—The last *Prager med. Wochft.* devotes several pages to an urgent appeal for the formation in Bohemia of a society for mutual aid in resisting unjust exactions by the sickness insurance companies (Krankenkassen). It is to be modeled on the *Leipziger Verband* for promoting the economic interests of the physicians of Germany, the success of which has surpassed all expectations. It now numbers 17,000 members, who pay annual dues of about $5. It has, to date, aided in 318 affairs in which there was conflict between the Krankenkassen and their medical officers, and all but eight have terminated in favor of the physicians. The pecuniary results for the medical officers of the sickness insurance societies amount to a total of $500,000 a year, gained for the profession by the efforts of the *Leipziger Verband*. Besides this, fully three times as many affairs were settled in favor of the medical officers without the necessity of a conflict, the total pecuniary results amounting thus to fully $1,600,000 a year gained for the medical officers of the sickness insurance societies by the direct or indirect backing of the organized profession in the *Leipziger Verband*. In Bohemia it is proposed to organize a similar society in each district, and in time to combine them into a national organization. The district society must have the backing of at least half of the physicians, and stirring appeals call on them to organize and reap the benefit of such organization. The prestige of the whole profession is raised by the better position now accorded the sickness insurance officers in Germany as the results of organization, and the same is hoped for Bohemia. The application for membership contains a clause imposing a penalty of about $400 for action contrary to the aims of the society.

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Epidemic Psychoses.—The *Russische Med. Rundschau* discusses the mutiny on the *Potemkin* of the Black Sea fleet, quoting an article by Jacoby, who takes the view that the mutiny was the result of an epidemic psychosis among the men. He regards the Paris commune of 1870 as an instance of the same kind of psychic commotion. The revolutionary movement at that time spread to other cities in France and into Italy and Spain. At Carthagena the crew of one of the naval vessels mutinied and bombarded the town. Jacoby met several of the members of the crew two years later and noticed that a number among them showed evidences of morbid minds, although their reasoning faculties were intact. In the present conditions in Russia, the editorial continues, instances of collective, induced psychoses are easily possible. One needs only to know the psychic condition of the Russian populace at the present time readily to understand it.

International Congress of Drops of Milk.—This fanciful name is given in Europe to the charity infant milk supply stations, combined with medical inspection of the infants and advice to mothers. An international conference of persons interested in the subject has just been held at Paris. The members of the congress visited the successful infant consultations in Paris and at Rouen and Fécamp, and decided to form an international union with headquarters at Brussels, where the next congress will be held in September, 1907. The official definition of the term *gouttes de lait* (drops of milk) was announced as "A work which fights against infantile mortality by every possible means; it gives advice to the mothers; encourages breast feeding, and supplies proper milk when the breast milk is insufficient or defective." The congress voted in favor of legislation for control of milk for the use of infants separate from the general milk supply. Ulecia, of Madrid, has founded a very successful infant consultation in his city and he remarked that to give milk to the mothers without medical advice at the same time, was high treason against motherhood (lèse-maternité). The charity milk supply stations in Great Britain are not under medical control, and there is no attempt at the "infant consultations" which have been developed to such perfection in France, as mentioned recently in these columns on page 1366. They have recently been introduced into Berlin, Vienna, Buda-Pesth and Buenos Ayres on the French models, and the Congress passed resolutions urging their still more general adoption. Four have been founded in St. Petersburg, but only one has survived to date. J. Bertillon proposed that infantile mortality should be classified by age, the first group including infants one to four days old; the second, five to nine; then ten to fourteen, fifteen to twenty-nine, one to three months, three to six months, and six to twelve months.

LONDON LETTER.

Increase of Inmates in the Asylums of Scotland.

The government report on lunacy in Scotland shows that the proportion of pauper insane resident in asylums per 100,000 of the population has steadily increased during the last twenty-five years. This does not appear to depend on increase of admissions, but on a diminution of the discharge rate. The reasons given for this are as follows: An increased unwillingness to retain insane persons in private life or to receive them back from asylums; the admission in large numbers of old and physically disabled persons who are unfit to be discharged; lessened activity on the part of parochial authorities in removal from the asylum of patients who could be cared for outside.

Death from a Wasp Sting.—The following remarkable case was investigated by the Sussex coroner. The wife of a workingman was drinking a glass of stout when she suddenly felt a pain in the throat as a result of some body which she had imbibed with the liquid. She coughed it out and found that it was a wasp. Beyond the natural fright and some discomfort in the throat, she seemed but little the worse for her experience, and for the next few days was comparatively well, so that medical advice was not sought. Then she felt faint and ill, but continued to pursue her ordinary vocation until the sixth day after the sting, when she called in a physician. He found little evidence of serious illness, but her symptoms rapidly increased and assumed a grave character. Cellulitis of the throat and nasal passages developed and death from septicemia followed in two days. This case differs from the ordinary cases in which dangerous symptoms follow wasp stings in that an interval elapsed between the sting and the onset of symptoms, and that these were due to cellulitis, and not to toxemia.

Pharmacology

The Square Deal in Pharmacy.

There are persons who are living more or less voluntarily in a fog, so far as concerns a real comprehension of the purpose of establishing the Council on Pharmacy and Chemistry. The issue is so plain that it should hardly need restating, but that further explanation is necessary is evident when we find the official journal of one state association joining hands with those who naturally are in opposition to the work of the reform.

Tersely stated, the object is to secure honesty in pharmacy. Apart from the creation of the false issues, the setting up of straw men, there are no two sides to the question. The profession is demanding nothing chimerical or difficult, but it should and must be recognized at once that the dishonest and fraudulent methods of those who are supplying physicians with medicinal articles must be stopped. The profession, the Association and the Council are desirous of bringing about this absolutely essential reform with as little friction and injury as possible. But in the past mild protests of a general character have failed to check the evil, so that the adoption of the present effective method became inevitable.

Nothing short of exposing fraud by giving specific examples will compel reform.

The profession needs attractive and reliable pharmaceuticals and welcomes the legitimate efforts of honest manufacturers. Those manufacturers who adopt the platform of the Council on Pharmacy and Chemistry—which is conservative and requires only honesty—are sure of the support of the profession. Common every-day honesty is all that is required, and those who are thereby now squealing so loudly are arousing questions as to their motives and methods.

There being not the least desire or need of punishing anyone for past offenses, it would seem to be an easy matter for the medical profession and the manufacturers to meet on the one common ground of square dealing and to arrange matters for the future so that harmony and honest methods may prevail. So long as there are fake preparations and misleading "literature" THE JOURNAL will continue to expose them, as a matter of duty to the medical profession and to the public. In the meantime, all who are ready to stand with us on the "square deal" platform will be welcomed.

Birds of a Feather. A Menace to the Public Health.

The list of the members of the Proprietary Association of America, which we published two weeks ago, is but another illustration of the general truth of the old adage that "Birds of a feather flock together." With the exception of a comparatively few firms, the concerns enumerated are engaged in a business that is neither honorable nor commendable. For the physician who is at all interested in the progress of his profession, or in the maintenance of the public welfare, this list should prove highly instructive, especially since the proprietary association is practically forcing the newspapers of the country to publish matter they supply to counteract the movement against the patent medicine fraud.

The preparations that are enumerated under the several firm names are important, as they constitute a goodly portion of the articles that are sold directly to the public. But it will be noticed that many of them were at one time considered "ethical," because they were advertised directly to, and were prescribed by, physicians. Many of them are composed of more or less active medicinal substances and thus are a direct menace to public health, when, as is now the case, they are used indiscriminately and without regard to their danger in

certain conditions. To-day their common use by the public is an indictment of the credulity or foolishness, or both, of a large number of medical practitioners. While even the most reckless users of nostrums would scorn to prescribe "Bradfield's Female Regulator," "Liquozone," "Peruna," or "Wine of Cardui," thousands of otherwise intelligent physicians are daily prescribing "ethical proprietaries" that are not one whit better. Many other "ethical proprietary" preparations are gradually, but surely, going, or have gone, to the patent medicine class by the aid of physicians. Such, for instance, as "Vin Mariani," "Tongaline," "Antikamnia," "Kutnow's Powder," "Gray's Glycerin Tonic Comp.," "Peacock's Bromides," "Chionia," "Cactina Pilletts," etc.

All of these and many more of the present-day "ethical" preparations that are "advertised only to the medical profession" may be found enumerated in the price lists of the larger cut-rate drug stores, and are daily sold to men, women and children, over the counter, at from 20 to 50 per cent. less than they are furnished on physicians' prescriptions.

The question naturally arises, Who is to take the blame for the ultimate consequences of the resulting haphazard self-medication? Who is to be held responsible for the over-stimulation and subsequent collapse, the deranged metabolism and the frequently acquired dangerous, if not fatal, drug habits? Before we blame the public for the indiscriminate use of "patent medicines" it will be well for many of us to ask ourselves how far we are responsible for some of the "patent medicine" taking.

Medical Papers and Proprietary Medicines.

Our contemporary, THE JOURNAL of the American Medical Association, is not having by any means an easy task in its attempt to enlighten the physicians of the states on various points regarding the trade in proprietary articles. Many of the proprietors of much-advertised preparations regard the undertaking as a direct attack on their trade, and they are ready to use any weapon in self-defense. In particular, many of the less important medical papers, whose existence depends in great part on the returns from their advertisement columns, have published violent attacks on THE JOURNAL and on the personality of its editor. In some cases these attacks are little else than paraphrases of the matter to be found in the advertising columns of the same papers. How strong a hold some of these manufacturing druggists have over the medical press in America is shown in an amusing way by a letter to THE JOURNAL itself from the proprietors of a much-vaunted hematinic, many of whose advertisements are doubtless at present in our readers' waste-paper baskets. In an editorial article in our contemporary some months ago, the statement occurred that "the day of blind reliance on iron, quinin, and tonics in general in the treatment of anemic conditions in tropical countries is past, never to return." This seemingly innocent remark drew forth an indignant letter of remonstrance from the proprietors of the hematinic, who regard it as a direct "slap in the face," since it is alleged to cast a slight on their preparation, and they threaten in consequence to withdraw their advertisement. When an attempt is made to restrain such a paper as THE JOURNAL of the American Medical Association from free comment, one may judge the freedom permitted to less independent and less scrupulous journals.—*Medical Press and Circular*, London.

Multiple Neuritis Following the Use of Peruna.

In the report of a recent meeting of the Academy of Medicine of Cincinnati, as published in the *Lancet-Clinic*, Nov. 4, 1905, the following interesting case is reported by Dr. George E. Malsbray:

"In September, 1904, I was called to see a woman just past the meridian of life, whom I found suffering from multiple neuritis. The nerves of the lower extremities, and some of the nerves of the head were successively involved. There was no history nor evidence of exposure to cold, rheumatism, nor exhaustion to act as etiologic factors. Finally, after ruling out other causes of the disease, it became evident that the patient must have been taking alcohol in some form, notwithstanding the fact that she was a refined lady and an earnest advocate of temperance, who would not knowingly indulge in any form of alcoholic beverage. I asked her what she had been drinking. She was shocked; she disclaimed being a tippler either in public or private. I asked her what medicine she had been taking. She stated that she had not been under the care of a physician. Further examination into the history of the case revealed the fact that the patient had been using 'peruna' for a long time, taking the nostrum under all sorts of pretexts. After explaining the case to the patient, she readily consented to stop the 'peruna' cocktails. As stated, first one nerve, then another, was attacked. Finally, after about three months' treatment with the usual remedies for multiple neuritis, the patient apparently recovered. . . . The patient has since relapsed, as is common in this disease, showing that the recovery was not complete."

Apothecaries and Patent Medicines.

To show what may be done by an apothecary who sees in the patent medicine he sells something beside the profit he reaps therefrom, we quote from a letter recently received from a Canadian druggist. He refers to a move of the patent medicine manufacturers to prevent price cutting, and incidentally to suppress what they denominate substitution:

> At first sight the proposition was a perfectly equitable one, but on close examination I found that anyone who signed it would be under the necessity of passing out any nostrum asked for without comment. Now, when anyone comes in and asks me for a bottle of these swindles, I always give them what they ask for, but usually with my opinion of the fraud thrown in. In certain cases it is useless to do this, as it has no effect. I am thankful to say, however, that I have been instrumental in killing the sale of some hundreds of bottle of these frauds. Another vile swindle I am "down on" is the advertised tuberculosis cure. I believe that this one county contributes $10,000 a year to the maintenance of those two harpies, —— and ——. I keep a small stock of the —— "remedies," and dispense them under protest. ——'s literature is so infernally offensive to the medical profession, that both my competitor and I have blacklisted the goods, and will have none of them.

This sentiment from a druggist is unusual, and hence the more commendable. That the apothecary has the legal right to sell his customers that for which they ask can not be denied; his opportunity for enlightening the public in regard to nostrums is not so thoroughly appreciated.—*American Medicine*.

Chicago Medical Society Indorses the Movement.

The Council of the Chicago Medical Society, at its last meeting, adopted the following resolutions:

> *Resolved*, That the Chicago Medical Society expresses its hearty approval of the action of the American Medical Association in establishing a Council on Pharmacy and Chemistry to investigate non-officinal drugs and medicinal preparations. It realizes that such an investigation is necessary to sift out the numerous and rapidly increasing number of worthless and harmful preparations that are being exploited among the physicians of this country. It has confidence in this Council and wishes to support the Trustees of the American Medical Association in carrying on the work already instituted by this body.
>
> The Chicago Medical Society also approves the action of THE JOURNAL of the American Medical Association in its campaign of educating the medical profession concerning the evils of secret nostrums and urges it to continue in the good work. FRANK X. WALLS, Secretary.

Work of the Council Indorsed.

We are officially informed that at a meeting of the Aux Plaines Branch of the Chicago Medical Society, held in the Phoenix Hospital, Maywood, November 24, a vote of thanks was unanimously tendered THE JOURNAL of the American Medical Association for the excellent work of its Council on Pharmacy and Chemistry with reference to the proprietary remedy evil.

Miscellany

Obstetrical Binders.—Povey, in the *Dominion Medical Monthly*, gives the following uses of the obstetrical binders as determined by his own personal experience. He advocates its use in practically all cases. The binder itself consists merely of a piece of unbleached muslin long enough to surround the abdomen and broad enough to extend from the pubes to the sternum; two pieces of the same material, three inches wide and eighteen inches long, are securely sewed to the posterior border (to avoid the use of safety pins, on which the patient would have to lie), so that when the binder is applied they hold it down in position, and, being pinned anteriorly above the pubes, hold the vulvar pads in position. Several of these simple binders should be on hand, so that as one becomes soiled another may be applied. A good sized pad of absorbent cotton or other suitable material should be placed on the abdomen just back of the uterus after that organ has been lifted forward. This pad is held firmly in this position while the previously arranged binder is pinned snugly by the nurse, beginning at the sternal end and pinning downward. The hand is gradually removed as the binder is pinned, so that the pad is held in place. The binder is pinned tighter above than below. The vulvar pad is placed in position and the two posterior straps are drawn up and pinned anteriorly, thus holding the binder down and the vulvar pad in position. Sometimes two additional straps can easily be adjusted. The binder may be tightened as the uterus contracts, and by the tenth day, when the uterus is within the pelvis, the pad may be entirely removed and the binder applied firmly throughout its entire length. The advantages of the binder thus applied are: 1. The patient is thus made comfortable. After the uterus has been delivered of its burden the patient necessarily feels a tremendous relief from weight, pressure and distension. 2. It permits the patient to be moved and turned in bed without the fear that something terrible is going to happen. For a patient to be turned from one side to the other, her position being changed when she becomes wearied, is of very great advantage in guarding against retroversion, descent and prolapse of the uterus. 4. It has a decidedly beneficial effect on the mental state, for the patient believes that her maidenly contour will be restored. Thus her mind is placed at ease, and this is no small factor in the establishment of an uneventful convalescence. He states that he has seen just as many cases of "after pains" when the binder was not applied as when it was, and in some cases in which he has removed the binder the pains continued. He is of the opinion that when not properly applied it causes retroversion, descent or prolapsus of the uterus, but when applied as he directs, thus allowing the patient to be turned and not requiring her to remain on her back, it possesses advantages far above the objection raised, and even is a great factor in preventing the mentioned sequela. The patient is of the opinion that it actually helps to restore the maidenly contour. All in all, it seems to Povey that the obstetrical binder is a rational, feasible and simple device, and when in the hands of a judicious obstetrician a decided help, comfort and blessing to womankind.

Preparations for Confinement.—De Forest, in the *Medical News*, gives the following list of articles which should be prepared and that should be within the reach of all save the very poor, and which does not include non-essentials:

For Use of the Mother.—Six towels, freshly laundered; three sheets, freshly laundered; one rubber sheet; one labor pad, made of newspapers and clean muslin, or quilted mattress protector; thirty-six lochial guards, preferably of gauze and paper wool, or of cotton waste, or of cotton and gauze sterilized; three binders, abdominal, 18 inches wide and circumference of hips; two binders, breast, made from pattern; twenty-four safety pins, Clinton, large No. 3; forty-eight medium No. 2; thirty-six small No. 1; two washbowls, earthern or agate; one water pitcher, earthen or agate; one slop jar; ten yards absorbent gauze for wash cloths, etc.; one fountain syringe (one gallon); one glass douche tip, for syringe; one glass drinking tube; one douche pan, white enamel or agate ware; two hand brushes; one hundred antiseptic tablets, 7½ grains, bichlorid, blue; eight fluid ounces of lysol; one tube of vaselin; four fluid ounces Squibbs chloroform.

This list is printed on a card six inches square. On the front of the card a space is left for the name, address and telephone number of physician, patient and nurse. On the back page, after it is folded vertically, is the direction:

"Urine: Send half a pint of morning urine to doctor's office every two weeks after the sixth month."

At the time of labor the room should be cleared of all needless articles and ornaments. The carpet should be protected with a layer of newspapers, with a sheet tacked over them. The bureau mantel and table tops should be cleared and protected with paper and covered with clean towels for the instruments, etc. There should be plenty of hot and cold water and ice in readiness. These supplies should be at hand, in good order and easily accessible.

For Use of the Baby.—Four flannel bands, 6 inches wide, 30 inches long; twenty-four diapers; one woolen blanket, soft, old and about a yard square; three flannel petticoats; four slips; two knitted flannel shirts; one bath tub, white, at least 2 feet long on bottom; one bath thermometer; one bath apron, flannel and rubber; one hot-water bag; one pound absorbent cotton; four fluid ounces olive oil (sweet oil); one cake of Castile soap; one baby basket to hold dressing materials, etc.; baby powder (lycopodium, 3; zinc stearate, 2); four ounces boric acid; one ounce powder for cord (salicylic acid, 1; zinc oxid, 1); one pound boric acid; one salt shaker for boric acid; one lightning jar, half-pint, for boric acid solution; scissors, pin cushion, needles and thread.

The Medical Student's First Duty.—Let not the thought be lost sight of that the duty of the student is, first and foremost, to perfect himself in his knowledge of medicine. No success, no distinction, no fame in art or letters, or in other fields, can atone for neglect of this. This is the foundation to which his other attainments may be added, but may not supplant.—Arthur W. Hurd, before the Buffalo Academy of Medicine.

Marriages

JOHN L. SWEENEY, M.D., to Miss Elsie F. Weeks, both of Chicago, November 15.

HOWARD E. WOODEN, M.D., to Miss Edith Marie Collier, both of Baltimore, November 8.

WADE HAMPTON NASH, M.D., to Miss Julia A. Pesold, both of St. Louis, November 14.

ROGER GRISWOLD PERKINS, M.D., to Miss Edna Brush, both of Cleveland, November 14.

ORRIN SAGE WIGHTMAN, M.D., to Miss Purl Parker, both of New York City, November 9.

JOSEPH N. ROY, M.D., Webster, Mass., to Miss Eva Lambert of Pascoag, R. I., October 31.

ROBERT W. WILLIAMS, M.D., to Miss Emma Kees, both of Cleveland, Ohio, November 14.

GEORGE E. SAUNDERS, M.D., to Miss Helen Rogers, both of Des Moines, Iowa, November 15.

J. SAMUEL PRICE, M.D., to Miss Maybel Hasbrouck, both of Beaumont, Texas, November 12.

JOHN WESLEY PHILLIPS, M.D., to Miss Laura Van Dyne, both of Troy, Pa., November 15.

WILLIAM S. JACKSON, M.D., to Miss Blanche Hambitzer, both of Houghton, Mich., November 15.

WILLIAM A. SELMAN, M.D., Atlanta, Ga., to Miss Elizabeth Crouch of Gay, Ga., November 15.

A. F. JOHNSON, M.D., Petersburg, Neb., to Miss Florence Hall of Exeter, Neb., November 22.

W. PRICE ZIMMERMAN, M.D., Batesburg, S. C., to Miss Mary Swygert of Peale, S. C., November 9.

GUY STONE, M.D., Keswick, Iowa, to Miss Agnes Kay Chubb of Michigan City, Ind., November 15.

ADELBERT D. HEAD, M.D., to Miss Sarah Elizabeth Roberts, both of Syracuse, N. Y., November 21.

JAMES A. YOUNG, M.D., Pearl, Idaho, to Miss Anne Llewellyn Walter of Boise, Idaho, November 15.

LEANDER B. DEAN, M.D., Blaine, Ky., to Miss Mollie Hutchinson of Fallsburg, Ky., November 16.

WARREN J. KARTERMAN, M.D., Hepler, Pa., to Miss Minnie M. Kehler of Kehler, Pa., November 8.

BROWNING G. PITTS, M.D., Lydia, S. C., to Miss Belle Watson of Ridge Spring, S. C., October 19.

JOSEPH C. RAUTH, M.D., Upper Sandusky, Ohio, to Miss Lillian Ley of Tiffin, Ohio, November 22.

CHARLES H. NORTH, M.D., Dannemora, N. Y., to Miss Luella B. Robinson of Clyde, N. Y., November 15.

WILBERT E. FORDYCE, M.D., to Miss Nellie Elizabeth Humphrey, both of Oelwein, Iowa, November 16.

EDWARD MARSHALL SANDIDGE, M.D., Clifford, Va., to Miss Lottie Walker of Salem, Va., November 15.

JOHN WALKER, M.D., Lynchburg, Va., to Miss Laura May Stebbins of South Boston, Va., November 29.

SAMUEL WARREN HOBBS, M.D., Aurelia, Iowa, to Miss Harriet D. Peters of Clinton, Iowa, November 11.

ELWIN W. CAPEN, M.D., Monson, Mass., to Miss Fannie Louise Barnes of Westfield, Mass., November 8.

HUGH O. MORGAN, M.D., to Miss Olga U. Von Hagen, both of Elkton, S. D., at Brookyngs, S. D., November 3.

LEWIS N. FOOTE, M.D., Brooklyn, N. Y., to Miss Mabel Shull Ackler of Ilion, N. Y., at Utica, N. Y., November 15.

ROBERT LAWRENCE CORBELL, M.D., Norfolk, Va., to Miss Nancy Alberta Webb, at Vienna, Md., November 21.

CLARENCE FONTAINE MAURY LEIDY, M.D., Philadelphia, to Miss Margaret Howard Ridgely, at Baltimore, November 25.

HARRY E. SUTTON, M.D., Cold Springs, Minn., to Miss Rosemund M. Garner of Spokane, Wash., in Watertown, S. D., November 16.

ROBERT E. NOBLE, M.D., first lieutenant and assistant surgeon, United States Army, to Miss Ella Lupton of Auburn, Ala., November 23.

WALTER C. CHIDESTER, M.D., lieutenant and assistant surgeon, United States Army, to Miss Marie Bull of San Francisco, November 22.

LEVY M. HATHAWAY, M.D., lieutenant and assistant surgeon, United States Army, to Miss Mary Frances Weir of Owensboro, Ky., November 27.

Deaths

De Ville White Harrington, M.D. University of Buffalo (N. Y.) Medical Department, 1871; a member of the American Medical Association, New York State Medical Association, Erie County Medical Society, Buffalo Academy of Medicine, and Cavalry Society of the United States Army; a veteran of the Civil War; professor of genitourinary and venereal diseases in the University of Buffalo Medical Department; consulting physician to the Buffalo General Hospital and Buffalo City Hospital; from 1876 to 1885 attending surgeon at the Sisters' Hospital; one of the best-known physicians of western New York, died at his home in Buffalo, November 20, from heart disease, after a long illness, aged 61.

Andrew Martin Pierce, M.D. College of Physicians and Surgeons in the City of New York, 1873; a member of the American Medical Association; member and once vice-president of the Massachusetts Medical Society; member and many times an officer of the South Bristol Medical Society; once president of the New Bedford Medical Society; for years physician to the poor department of New Bedford, and for twenty years a member of the staff of St. Luke's Hospital, died at his home in New Bedford, November 6, after an illness of about one year, aged 53.

Augustus Choate Hamlin, M.D. Harvard University Medical School, Boston, 1855; assistant surgeon of the Second Maine Volunteer Infantry; brigade surgeon and finally lieutenant-colonel in the Army during the Civil War; made chevalier of St. Ann by the Czar of Russia in 1878; commissioner from Maine at the Yorktown centennial in 1881; surgeon-general of Maine from 1882 to 1886; twice mayor of Bangor; widely known as an author, artist and as an authority on tourmalines, died at his home in Bangor, November 20, aged 76.

Benjamin Myers, M.D. Jefferson Medical College, Philadelphia, 1869; formerly state representative and probate judge of Ashland County, Ohio; a veteran of the Civil War; for three years a member of the board of trustees of the Ohio Central Insane Asylum, Celina; in 1884 mayor of Ashland, died at his home in Ashland, November 21, from pneumonia, after an illness of four days, aged 63.

William A. Burns, M.D. Medical Department of Western Reserve University, Cleveland, Ohio, 1898; a prominent colored physician of Dayton, Ohio; a member of the Dayton Academy of Medicine, died at his home in Dayton, November 19, from typhoid fever, after an illness of three weeks. At a special meeting of the Academy of Medicine, it was voted to attend the funeral in a body, and resolutions of sorrow and respect were adopted.

Charles M. Zeh, M.D. Castleton (Vt.) Medical College, 1848, one of the oldest physicians of Newark, N. J.; a member of the board of health and health officer for many years; a member of the Medical Society of the State of New Jersey and the Essex County Medical Society; consulting physician to St. Michael's Hospital, died suddenly at his home, November 13, from cerebral hemorrhage, aged 78.

Robert Edwin Coy, M.D. Chicago Medical College, 1891; a member of the American Medical Association, Illinois State Medical Society, and Winnebago County Medical Society; a member of the attending staff of the Rockford City Hospital, died at his home in Rockford, Ill., November 21, from pneumonia, after an illness of about one week, aged 57.

Henry A. Tingley, M.D. University of Buffalo (N. Y.) Medical Department, 1848; one of the oldest practitioners of Susquehanna County, Pa.; president of the school board of Susquehanna; a surgeon in the Army during the Civil War, and president of the first soldiers' election board, died at his home in Susquehana, October 28, aged 85.

Andrew Thustin Pearsall, M.D. College of Physicians and Surgeons in the City of New York, 1861; assistant surgeon and late brigade surgeon in the Confederate service during the Civil War; local surgeon for the D., L. & W. Railway, died at his home in Owego, N. Y., from diabetes, after a long illness, November 17, aged 66.

Daniel H. Tarbell, M.D. (Philadelphia Med. and Surg. Reg.), 1880; a veteran of the Civil War; twice coroner of the northern district of Rensselaer County, N. Y.; president of Schagticoke, N. Y., for five terms, and health officer for twenty-eight years, died at his home in that village, November 10, after a long illness, aged 63.

John I. French, M.D. Tufts College Medical School, Boston, Mass., 1896; a member of the American Medical Association and Massachusetts Medical Society; instructor in materia medica and therapeutics in the Tufts College Medical School; police surgeon and member of the Board of Health of Winchester, Mass., died at his home in that city, November 18, from nephritis, aged 44.

William A. McCord, M.D. Vanderbilt University Medical Department, Nashville, Tenn, 1883; a member of the American Medical Association; one of the most prominent practitioners of Marshall County, Tenn., died at his home in Lewisburg, November 15, after a prolonged illness from disease of the stomach, aged 47.

Zaccheus Test, M.D. Department of Medicine of the University of Pennsylvania, 1855, but since 1859 not a practitioner owing to ill-health; one of the best-known educators of Indiana, died at his home in Richmond, November 3, from cerebral hemorrhage due to a fall downstairs two days before, aged 77.

William M. Mahoney, M.D. College of Physicians and Surgeons in the City of New York, 1891; an employe of the New York Department of Health; surgeon to the Metropolitan Throat and Nose Hospital, died at his home in New York City, November 16, from pulmonary hemorrhage, aged 47.

Ira Smith, M.D. Kansas City (Mo.) Medical College, 1879; a member of the American Medical Association; widely known in Cass and Bates counties, Missouri, where he had practiced for twenty-six years, was burned to death in a fire which destroyed his drug store at Austin, Mo., November 1.

James Carter, M.D. Chicago Medical College, 1880; a member of the American Medical Association; formerly of Rawlins, Wyo., and president of the Wyoming Medical Association, died at Robertsdale, Ala., where he had gone for his health nine months ago, November 17, aged 54.

James S. Trotter, M.D. University of Buffalo (N. Y.) Medical Department, 1891, of Buffalo; a member of the Erie County Medical Society and of the Buffalo Academy of Medicine, died on his farm at Waterford, Ont., November 11, after an illness of several months.

William F. Tait, M.D. Cincinnati, Ohio, 1866, of Galesburg, Ill.; a veteran of the Civil War; for several years assistant surgeon of the Soldiers' Home, Quincy, died at a hospital in St. Louis, November 8, from malignant disease of the face, aged 69.

Clarence Bartow, M.D. College of Physicians and Surgeons in the City of New York, 1905, ambulance surgeon of Roosevelt Hospital, New York City, was instantly killed by a collision of his ambulance with an automobile truck, November 25, aged 27.

William M. Woodworth, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1853; coroner of Crawford, Mich., and for many years county physician, died suddenly at his home in Grayling, November 1, aged 76.

William A. Bickers, M.D. University of Virginia Medical Department, Charlottesville, 1856, of Crooked Run, Va., died suddenly in his room at the Astor House, New York City, from cerebral hemorrhage, November 20, aged 69.

Julius A. Ruge, M.D. Humboldt Medical College, St. Louis, 1861; assistant surgeon of the Thirty-first Missouri Volunteer Infantry in the Civil War, died at his home in St. Louis, November 14, from heart disease, aged 69.

Whitcomb Phelps, M.D. Medical College of Ohio, Cincinnati, for many years a practitioner of Fort Wayne, Ind., died at the home of his sister in Troy, Pa., from disease of the stomach of long standing, November 12, aged 75.

Michael E. Scannell, M.D. Harvard University Medical School, Boston, 1891, of Worcester, Mass., died in the City Hospital, Worcester, November 16, from heart disease, after an illness of one week, aged 41.

Frank Fennell, M.D. Keokuk Medical College, College of Physicians and Surgeons, Keokuk, 1905, committed suicide by taking morphin at his office in Readlyn, Iowa, while despondent, November 2, aged 25.

Henry Ness, M.D. Long Island College Hospital, Brooklyn, N. Y., 1891, of Brooklyn, died at Verbeck, N. Y., November 18, from cerebral hemorrhage, after an illness of five years with spinal disease, aged 50.

Percy C. Smith, M.D. Medical College of Indiana, Indianapolis, 1898, formerly a practitioner of Swanton, Neb., died at his home in Los Angeles, Cal., November 3, after an illness of four weeks, aged 36.

William Finlaw, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1863, a surgeon in the Army during the Civil War, died at his home in Santa Rosa, Cal., November 17, after a short illness.

George Royal Shafer, M.D. Chicago, 1881, formerly a member of the Illinois State Board of Health, died at his home in Peoria, November 4 ,from rheumatic endocarditis, after a long illness, aged 47.

Norman L. Jones, M.D. Rush Medical College, Chicago, 1882, died at his home in Norton, Kan., November 17, from intestinal obstruction, for which an operation was made a few hours before.

Walter William Robison, M.D. College of Physicians and Surgeons, Chicago, 1897, died at his home in Edelstern, Ill., November 3, from the effects of an overdose of morphin, aged 35.

Willis J. White, M.D. Omaha (Neb.) Medical College, 1891, of Sioux City, Iowa, died at St. Joseph's Hospital in that city, November 13, from pneumonia, after an illness of five days, aged 40.

Thomas L. Painter, M.D. Medical College of Virginia, Richmond, 1868, of Knob, Va., died at the home of his son in Tazewell, Va., November 9, from nephritis, after a long illness, aged 64.

Patrick H. Gallagher, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1864, the oldest physician in the copper country, died at his home in Hancock, Mich., November 21, aged 74.

Mordecai C. Mendenhall, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878, died at his home in Vermilion Grove, Ill., November 15, after an illness of two weeks, aged 70.

Irwin A. Cofer, M.D. Southern Medical College, Atlanta, Ga., 1880, died suddenly from pulmonary hemorrhage, at the home of his nephew in Atlanta, Ga., November 17, aged 43.

Frank H. Russell, M.D. Rush Medical College, Chicago, 1890, died at his home in Kewanee, Ill., November 2, from tuberculosis, after an illness of more than a year, aged 35.

Zachary T. Magill, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1876, of Winters, Cal., died suddenly in Berkeley, Cal., November 9, from heart disease.

William B. Dunkle, M.D. Rush Medical College, Chicago, 1863, died at his home in Gelinan, Iowa, November 14, aged 70.

George H. Gilson, M.D. St. Louis Medical College, 1876, died at his home in Raymond, Ill., November 18, aged 56.

Frank M. Harry, M.D. Pennsylvania, 1878; formerly a burgess of Mount Joy, Pa., died at his home in that place, November 20, after a short illness, aged 57.

Arthur O. Bowman, M.D. Bellevue Hospital Medical College, New York City, 1891, died at his home in Roweaville, S. C., November 15, from diphtheria, aged 36.

James Vaughn Tabor, M.D. Harvard University Medical School, 1867, a veteran of the Civil War, died at his home in Hodgdon, Maine, October 24, aged 85.

Thomas Sullivan, M.D. Trinity Medical College, Toronto, Ont., 1881, died suddenly at his office in Springfield, Minn., from heart disease, November 10.

Frank A. Winne, M.D. Pennsylvania, 1878, died suddenly at his home in Brockport, N. Y., November 12, from cerebral hemorrhage, aged 55.

Jason P. Safford, M.D. Detroit (Mich.) Medical College, 1884, of Detroit, Mich., died in Plymouth, Mich., November 12, after a long illness.

Sarah J. Coe, M.D. Michigan, 1878, died at her home in Wilkesbarre, Pa., November 4, from paralysis, after an illness of three years.

John R. Manley, M.D. Cincinnati, 1895, died suddenly at his home in Buckhannon, W. Va., November 16, from heart disease, aged 45.

James F. Meeks, M.D. (Examination, Ohio), a surgeon in the Civil War, died at his home in Hoytville, Ohio, November 11, aged 71.

Joseph Watson, M.D. Ohio, 1853, of Cardington, Ohio, died suddenly in Detroit, Mich., from heart disease, November 2, aged 81.

John E. Gemmel, M.D. Manitoba Medical College, Winnipeg, 1888, died at his home in Rush City, Minn., November 11, aged 45.

Harriet Jackson Ravold, M.D. Illinois, 1894, died at her home in St. Joseph, Mo., November 17, after an illness of three years.

Robert B. Armstrong, M.D. Omaha (Neb.) Medical College, 1893, died recently at his home in Polk City, Iowa.

Francis A. Benham, M.D. Illinois, 1862, died at his home in Elkhart, Ind., November 19, aged 84.

Book Notices

THE PHYSICIANS' VISITING LIST FOR 1906. Fifty-fifth year of its publication. Leather cover, with flap, pencil and pocket. Price, $1.00. Philadelphia: P. Blakiston's Son & Co., 1905.

The fifty-fifth edition of this visiting list is furnished in four different weekly sizes, allowing for 25, 50, 75 and 100 patients respectively per week; in a perpetual edition with spaces for 1,300 and 2,600 names respectively, and in a monthly edition. The system used is different from that of Dr. Taylor's book, which we reviewed last week, in which each patient's account is by itself. This book is more of a day-book; each patient has a line, each day a column, and the entries are made in accordance with a table of signs, which includes all possible contingencies. Following the visiting list proper there are special pages for memoranda, addresses of patients, addresses of nurses, bills presented, vaccination engagements, obstetric engagements, births, deaths, and cash account.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By J. M. Anders, M.D., Ph.D., LL.D. Illustrated. Seventh Edition. Cloth. Pp. 1297. Price, $5.50 net. Philadelphia: W. B. Saunders & Co., 1905.

In this seventh edition of Anders' text-book the original plan has been retained and the details of treatment of diseases have been given their proper prominence. Among the new subjects now treated more fully are: the Rocky Mountain spotted fever, splanchnoptosis, myasthenia gravis, pseudotuberculosis, benign cirrhosis of the stomach, intestinal lithiasis and calculi, emulsion-albuminuria, the sequelæ of valvular lesions, the Adams-Stokes syndrome, examination of patients for diagnosis of diseases of the stomach, and Cammidge's tests for glycerose in the urine. The sections on paratyphoid fever, beriberi and trypanosomiasis have been rewritten and the entire volume has been brought up to date. Important additions have been made to the sections dealing with those tropical and subtropical diseases which are being observed with increasing frequency in the temperate zone.

Queries and Minor Notes

TUBERCULOSIS ORGANIZATIONS.

STANFORD UNIVERSITY, CAL., Nov. 8, 1905

To the Editor:—Can you furnish a list of tuberculosis leagues and societies in the U. S., also any suggestion concerning a way of getting at the progress of these leagues. I am anxious to secure a bibliography on the subject. JAMES ROSENFELD.

ANSWER.—The following are the principal organizations working against tuberculosis in the United States:

1. The National Association for the Study and Prevention of Tuberculosis (organized June 6, 1904). President, Dr. Herman M. Biggs, New York; secretary, Dr. Henry Barton Jacobs, Baltimore; executive secretary, Professor Livingston Farrand. Office, 105 East 22d Street, New York City. The objects of the association are, the study of all forms of tuberculosis; the dissemination of knowledge concerning the disease; and the encouragement of its prevention and scientific treatment. The association aims to bring into co-operation all the various agencies working against the disease in America. It has aided in the organization of state and local work in many parts of the country, and by various means is spreading a knowledge of the subject and of its importance, among the people at large. One of the most important of these efforts is the Tuberculosis Exposition, which is to be held in New York, beginning November 28. (See THE JOURNAL, Nov. 25, p. 1664..)

2. The Tuberculosis Committee of the Charity Organization Society of New York (organized in June, 1902). Secretary, Mr. Paul Kennaday, 105 East 22d Street, New York City. In addition to much educational, scientific and legislative work, the committee has published a very complete and valuable "Handbook on the Prevention of Tuberculosis," in which every branch of the subject is fully and authoritatively treated.

3. The Committee on the Prevention of Tuberculosis of the Visiting Nurse Association of Chicago (established in June, 1903). Medical Director, Dr. Arnold C. Klebs. Central office, 1414 Unity Building, Chicago. This committee has provided medical and nursing care and instruction for over 1,000 poor consumptives. It has a staff of district physicians and nurses, with offices in the different quarters of the city, by whom patients are attended to, as well as instructed about their disease, its prevention and cure. Special attention is given to the compilation of statistics and to educational work, especially by means of lectures. It also maintains a library and bibliography on tuberculosis. The central office of the committee is also used by the Illinois State Association for the Prevention of Tuberculosis.

4. The Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis (founded February, 1903). Dr. Lawrence F. Flick, medical director, 238 Pine Street, Philadelphia, Pa. This is one of the most completely equipped and most efficient establishments connected with the movement. The institute maintains a hospital for advanced cases, a free clinic, and a laboratory. It also arranges lectures and does other educational work. The results of its first year's work have been published in a report, containing statistics from about 2,000 cases treated.

5. The Boston Association for the Relief and Control of Tuberculosis (organized in 1903). Alexander M. Wilson, general secretary; 8 Beacon Street, Boston. This committee carries on educational and statistical work, promotes the establishment of sanatoria and hospitals, and has done much to arouse interest in the subject among trades unions.

There are similar societies or committees carrying on this work in the following cities: Hartford and New Haven, Conn.; Washington, D. C.; Lexington, Ky.; Peoria, Streator, Jacksonville and Moline, Ill.; Cambridge, Mass.; Minneapolis; St. Louis; Binghampton, Buffalo and Rochester, N. Y.; Cleveland, Toledo and Youngstown, Ohio; Scranton, Pa.; Newport, R. I.

Among the most important state organizations are the following:

The Pennsylvania Society for the Prevention of Tuberculosis (organized in 1892). The first state society of its kind in America. It has done much educational and legislative work, and has agitated for better sanitary conditions.

The Tuberculosis Commission of Maryland has made an extensive study of tuberculosis in Maryland, embodying the results in a report to the governor of the state, published in 1904. It also held a tuberculosis exposition in Baltimore, in January, 1904, which greatly increased interest in and knowledge of the subject.

The Illinois State Association for the Prevention of Tuberculosis (organized in January, 1905), has prepared and distributed literature, and has organized the work against tuberculosis in a number of towns. The association has also conducted a vigorous campaign for the establishment of a state sanatorium.

There are also state associations, committees or commissions in the following states: California, Georgia, Indiana, Iowa, Kentucky, Minnesota, New Hampshire, New Jersey, Ohio, Vermont and Wisconsin.

Among the more valuable works on the subject are these: "A Directory of Institutions and Societies Dealing with Tuberculosis." Charity Organization Society, New York, 1904. "A Handbook on the Prevention of Tuberculosis." Tuberculosis Committee of Charity Organization Society, N. Y., 1904. "First Annual Report of the Henry Phipps Institute." Philadelphia, 1905.

A complete list of all organizations, hospitals, dispensaries, etc., for tuberculosis was given in THE JOURNAL, Feb. 11, 1905, page 455.

State Boards of Registration

COMING EXAMINATIONS.

Wyoming Board of Medical Examiners, Cheyenne, December 6. Secretary, S. B. Miller, Laramie.

Examining Board representing the President and Fellows of the Medical Society of Delaware at Dover, and the Homeopathic Board, Wilmington, December 12. Secretary, P. W. Tomlinson, Wilmington.

Ohio State Board of Medical Registration and Examination, Columbus, December 12-14. Secretary, F. Winders, Columbus.

Medical Examining Board of Virginia, Richmond, December 12-15. Secretary, R. S. Martin, Stuart.

Board of Medical Examiners of Maryland, Baltimore, December 13-16. Secretary, J. McScott, Hagerstown.

State Board of Health of Missouri, Kansas City, December 19-21. Secretary, J. A. B. Adcock, Warrensburg.

Board of Medical Examiners State of California, San Francisco, December 20. Secretary, Charles L. Tisdale, San Francisco.

Colorado March, July and October Reports.—Dr. S. D. Van Meter, secretary of the Colorado State Board of Medical Examiners, reports the oral and written examinations held at Denver, March, July and October, 1905.

At the March examination the number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 70. At the July and October examinations the number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 70.

At the March examination the total number of candidates examined was 3, of whom 2 passed and 1 failed. The following colleges were represented:

PASSED. College.	Year. Grad.	Per Cent.
Physio-Medico College, Chicago	(1900)	70
College of Medicine and Surgery, Chicago	(1904)	78
FAILED.		
Little Rock and Dallas, Texas, Med. Coll.		31.9

At the July examination the total number of candidates was 4, including one osteopath. Two passed, 1 failed, and 1 failed to appear for examination.

PASSED. College.	Year. Grad.	Per Cent.
Barnes Med. Coll., St. Louis	(1905)	70
FAILED.		
Kansas Med. Coll. (1895)*		
California Med. Coll. (1904)**		

* Candidate took the oral and clinical examination, but refused to take the written one.

** Candidate failed to appear for examination. License refused.

At the October examination one candidate, a graduate of Starling Medical College (1855), took the oral and clinical examination, but refused to take the written one, and a license, therefore, was refused. A graduate of the College of Medicine and Surgery, Indianapolis (1894), applied for license but refused to appear for examination; in this case also the license was refused. A license was refused to one candidate on account of his moral character.

From April 20 to October 1 there were thirty applicants, not included in refused list, who have not been granted licenses, owing to the fact that after filing their preliminary papers they either failed to complete their applications or withdrew them. Some of these candidates failed to appear for legitimate reasons, such as changing their minds, etc., but the majority did so because they concluded after further investigation that they would be refused licenses. This explains why the percentage of refused applicants and written examinations is so low.

Iowa Requirements.—At the semi-annual meeting, November 1, the Iowa State Board of Medical Examiners ruled that, after July 1, 1906, they will consider no medical college in good standing which does not require as a condition for graduation not less than four courses of lectures of not less than seven months each, no two of which shall begin or end in the same calendar year; or which grants any advanced standing because of the possession of a literary or scientific degree. Graduates of colleges which do not fulfill the requirements will not be examined.

Idaho October Report.—Dr. J. L. Conant, Jr., secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, Oct. 3-4, 1905. The number of subjects examined in was 13; total number of questions asked, 110; percentage required to pass, 75. The number of candidates examined was 31, of whom 27 passed and 4 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Rush Med. Coll. (1880) 83.8; (1890) 82.8; (1902) 75; (1905) 93.3		
Washington University, St. Louis	(1905)	84.9
Jefferson Med. Coll.	(1904) 85.1; (1905) 78.4,	81.8
University of Minnesota	(1887)	77.9
Hahnemann Med. Coll., Chicago	(1901)	79.5
University Med. Coll., Kansas City	(1903)	80.9
Kansas City Med. Coll.	(1904)	86.3
University of Michigan	(1904)	84.5
Central Med. Coll.	(1905)	81.5
University of Iowa, Homeo. Dept.	(1897)	77.5
Northwestern University	(1904) 80; (1905)	90.3
University of Colorado	(1905)	83.2
Kansas Med. Coll.	(1905)	85.9
University of the South, Sewanee	(1904)	78.4
Herring Med. Coll., Chicago	(1904)	87
University of Nebraska	(1903)	75
Kentucky School of Medicine	(1892)	79.7
University of Toronto	(1905)	88
Denver & Gross Coll. of Med.	(1904) 81.2, 87.3	88.2
FAILED.		
Ft. Wayne Med. Coll.	(1892)	73.6
University of Michigan	(1901)	72.3
University of Louisville	(1883)	38
Bennett Med. Coll., Chicago	(1900)	68.2

Oregon April Report.—Dr. B. E. Miller, secretary of the Board of Medical Examiners of the state of Oregon, reports the written examination held at Portland, April 20, 1905. The number of subjects examined in was 15; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 54, of whom 28 passed and 26 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
University of Oregon....(1905) 75.2, 79, 79.40, 79.8, 79.8, 80.8, 81, 81, 81.5, 82.9, 84, 86.6, 86.7.		
Willamette University	(1903) 78.6, 79.4, 79.4, 81.3,	83.4
College of P. and S., San Francisco	(1904)	84.6
Rush Med. Coll.	(1895) 81.8; (1897)	86.9
Woman's Med. Coll., Pennsylvania	(1900)	69.4
University of Nashville	(1896)	76.6
University of Baltimore	(1899)	82.2
University of Michigan	(1885)	87.2
College of Med. and Sur., Minn.	(1901)	81.8
FAILED.		
Medico-Chirurgical College, Missouri	(1905)	69
Marion-Sims-Beaumont Coll., Missouri	(1904)	71
Marion-Sims Med. Coll.	(1891)	69
Illinois Med. Coll.	(1892)	71.6
Rush Med. Coll.	(1902)	71.8
American Coll. of Med. and Surg., Illinois	(1904)	51.6
California Med. Coll.	(1902)	71
Dallas Med. Coll., Texas	(1904)	31.5
Hahnemann Med. Coll., Hom., California	(1897)	30.9
University of Oregon (1905) 71, 74, 74, 74, 74, 74.8, 74.8, 74.4, 74.5, 71.2, 71, 71, 71.		
Willamette University	(1905) 74.7, 72.4,	73
Nongraduates	71,	56.2

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending November 25:

Hoff, John Van R., asst.-surgeon general, ordered to report in person to the chief of staff for temporary duty in his office.

DeWitt, Wallace, asst.-surgeon, leave of absence extended ten days.

Frick, Euclid H., surgeon, detailed to accompany troops G and H, Third Cavalry, from Fort Snelling, Minn., to San Francisco.

Collins, C. C., asst.-surgeon, granted thirty days' leave of absence, with permission to apply for thirty days' extension.

Lippitt, Wm. F., surgeon, granted four months' leave of absence.

Rockhill, E. P., asst.-surgeon, ordered to report to Lieut.-Col. Geo. H. Torney, deputy surgeon general, president, examining board, General Hospital, Presidio of San Francisco, for examination to determine fitness for general assignment, on December 28.

Metcalfe, R. F., asst.-surgeon, ordered, on arrival at San Francisco, to proceed to Fort Leavenworth, Kan., for temporary duty. On return of Asst.-Surgeon Buck to that post, Asst.-Surgeon Metcalfe will proceed to Columbus Barracks, Ohio, for station.

Lippitt, Wm. F., surgeon, granted leave of absence from December 19, 1905, to January 5, 1906.

Owen, Wm. O., surgeon, having been found by an army retiring board incapacitated for active service on account of disability incidental thereto, his retirement from active service by the President, November 23, is announced.

Koerper, C. E., asst.-surgeon, in addition to his present duties will report at Washington Barracks, D. C., for temporary duty.

Havard, Valery, asst.-surgeon general, left Governor's Island, N. Y., with department commander on inspection tour.

Raymond, Henry L., surgeon, left Columbus Barracks, Ohio, with recruits to Vancouver Barracks, Washington.

Farrow, Edgar J., contract surgeon, ordered to sail for Manila, P. I., November 25, for duty in the Philippines Division.

Hereford, John R., contract surgeon, granted an extension of one month to his leave of absence.

Wing, Franklin P., dental surgeon left Fort Des Moines, Iowa, and arrived at Jefferson Barracks, Mo., for duty.

Carpenter, Alden, dental surgeon, left Boise Barracks, Idaho, for Vancouver Barracks, Washington, his proper station.

Daywalt, George W., contract surgeon, left Fort St. Philip, La., on leave of absence for one month, twelve days.

Mason, George L., dental surgeon, ordered from Fort McPherson, Ga., to Fort Fremont, S. C., for two weeks' duty; to go thence to Fort Moultrie, S. C., for one month.

Wolven, F. Homer, dental surgeon, granted leave of absence for fifteen days.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending November 25:

Guthrie, J. A., surgeon, orders of November 8, modified; granted sick leave for three months.

Leibetter, R. E., P. A. surgeon, detached from the Navy Yard, Norfolk, Va., and ordered to the *Glacier*.

Traynor, J. P., asst.-surgeon, ordered to the Naval Hospital, Boston.

Miller, J., asst.-surgeon, detached from the *Lawton* and ordered to duty at Midway Islands.

Hart, G. G., acting asst. surgeon, detached from the *Glacier* and ordered to the naval recruiting station, Buffalo, N. Y.

Tyree, P. W., acting asst.-surgeon, detached from duty at Midway Islands and ordered to duty at the naval training station, San Francisco.

Evans, S. G., surgeon, ordered to the naval recruiting rendezvous, Denver, December 1.

Miller, J. T., acting asst.-surgeon, detached from the naval hospital, Sitka, Alaska, and ordered home to wait orders.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending November 22:

Vaughan, George T., assistant surgeon-general, granted leave of absence for four days from November 15.

Balthache, P. H., surgeon, granted leave of absence for ten days from November 20.

Sawtelle, H. W., surgeon, granted extension leave of absence for twenty days, from November 23.

McIntosh, W., surgeon, twenty-one days leave of absence granted from November 15, amended to read twenty-one days from November 18.

Rossman, M. J., P. A. surgeon, granted leave of absence for fourteen days from November 22.

Parker, H. R., P. A. surgeon, granted leave of absence for twenty days from December 15.

Anderson, J. F., P. A. surgeon, leave of absence granted for one month from November 1, amended to read eighteen days from November 1.

Corput, G. M., P. A. surgeon, directed to proceed to Pascagoula, Miss., for special temporary duty.

Berry, T. D., P. A. surgeon, leave of absence temporarily revoked and directed to proceed to Biloxi, Miss., for special temporary duty.

Warren, B. S., P. A. surgeon, granted extension leave of absence for one month from December 3.

Bahrenburg, L. P. H., Burkhalter, J. T., and Boggess, J. S., asst.-surgeons, to report to chairman of board of examiners at Washington, D. C., December 4, for examination to determine their fitness for promotion to the grade of passed assistant surgeon; on completion of this duty to rejoin station.

Jackson, J. M., acting asst.-surgeon, granted six days' leave of absence, from November 5.

Mohr, H. R., acting asst.-surgeon, granted leave of absence for thirty days, from December 1.

Small, E. M., acting asst.-surgeon, granted leave of absence for fourteen days beginning December 7.

Frick, John, acting asst.-surgeon, granted leave of absence for thirty days, from December 1.

Kennard, Karl S., acting asst surgeon, granted leave of absence for fourteen days, from November 27.

Stearns, H. H., acting asst.-surgeon, granted leave of absence for twenty-one days from Dec. 11, 1905.

Farbell, R. R., acting asst.-surgeon, granted leave of absence for ten days from November 21.

Richardson, S. W., pharmacist, granted leave of absence for twenty-three days from November 23.

BOARD CONVENED.

Board to meet at Washington, D. C., December 4, for the examination of assistant surgeons. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General J. M. Eager; P. A. Surgeon John F. Anderson, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the surgeon general, Public Health and Marine-Hospital Service during the week ended November 20.

SMALLPOX—UNITED STATES.

California: San Francisco, Oct. 29-Nov. 11, 7 cases.
Florida: Jacksonville, Nov. 4-11, 1 case.
Louisiana: New Orleans, Nov. 4-11, 2 cases.
Michigan: Kalamazoo, Nov. 4-11, 4 cases.
Ohio: Lucas County, Nov. 11-18, 5 cases.
Pennsylvania, York, Nov. 11-18, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Aug. 1-31, 28 deaths.
Brazil: Bahia, Oct. 1-21, 117 cases, 3 deaths; Pernambuco, Sept. 17-30, 208 deaths; Rio de Janeiro, Oct. 8-15, 6 cases, 6 deaths.
Canada, Toronto, Nov. 4-11, 5 cases.
England, Leeds, Oct. 29-Nov. 4, 1 case; Nottingham, Oct. 14-21, 1 case.
France: Paris, Oct. 21-28, 8 cases.
Gibraltar: Oct. 29-Nov. 4, 4 cases.
India: Bombay, Oct. 16-17, 2 deaths.
Italy: Catania, Oct. 28-Nov. 2, 2 cases; Genzano, 2 cases; Magliano Del Marti, 1 case; Messina, Oct. 21-28, 1 death; Troina, Oct. 28-Nov. 2, 2 cases; Vallelonga, 2 cases.
Russia: Moscow, Sept. 23-Oct. 14, 16 cases, 10 deaths; Odessa, Oct. 14-21, 9 cases; St. Petersburg, Oct. 1-21, 5 cases.
Spain: Barcelona, Oct. 21-31, 3 deaths.
Turkey: Constantinople, Oct. 22-29, 2 deaths.

YELLOW FEVER—UNITED STATES.

Florida: Pensacola, Nov. 9-16, 1 case, 1 death.
Louisiana: New Orleans, Nov. 4-11, 2 cases, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Oct. 8-15, 2 deaths.
Honduras: Choloma, Nov. 15, present; Puerto Cortes, 2 cases; San Pedro, 3 cases.
Mexico: Vera Cruz, Oct. 29-Nov. 4, 2 cases, 1 death.

CHOLERA—FOREIGN.

Germany: Kurzebrack, Sept. 3-9, 4 cases, 2 deaths; Adolfsdorf, Sept. 1-Oct. 14, 12 cases, 2 deaths; Czarnikkan, to Sept. 2, 2 cases, 2 deaths; Dratzig, Sept. 3-9, 3 cases, 3 deaths; Grandenz, to Sept. 9, 8 cases, 2 deaths; Gnesen, Sept. 3-9, 3 cases; Rastenburg, 1 case; Sommerau, 1 case, 1 death; Steinfurth, Sept. 1-7, 1 case; Warnikeim, Sept. 10-16, 1 case, 1 death; Stolpe, Oct. 1-21, 19 cases, 1 death; Strasburg, Oct. 15-21, 1 case.
India: Calcutta, Sept. 23-Oct. 14, 127 cases.
Russia: Vintula Territory, Oct. 11-18, 26 cases, 14 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Oct. 1-31, 7 deaths.

PLAGUE—FOREIGN.

Australia: Sydney, Aug. 1-31, 1 death.
Brazil: Rio de Janeiro, Oct. 8-15, 5 deaths.
India: General, Oct. 7-14, 4,294 cases, 3,395 deaths; Bengal, 88 cases, 65 deaths; Bombay, Oct. 10-17, 14 deaths; Calcutta, Sept. 23-Oct. 14, 26 deaths; Karachi, Oct. 10-17, 10 cases, 8 deaths.
Japan: Kobe, Oct. 14-21, 2 cases, 2 deaths.
Peru: Lima, Oct. 11-20, 7 cases, 4 deaths; Sept. 21-30, 4 cases, 2 deaths; Payta, Oct. 11-20, 1 case, 1 death, Sept. 21-30, 3 cases, 2 deaths; Mausiche, 3 cases.

Medical Organization

California.

ALAMEDA COUNTY MEDICAL ASSOCIATION.—Dr. J. N. McCormack, organizer for the American Medical Association, delivered an address before the Alameda County Medical Association, October 18, in which he urged the benefits of organization.

LONG BEACH MEDICAL SOCIETY.—The medical fraternity of Long Beach assembled, October 27, to meet Dr. J. N. McCormack, organizer of the American Medical Association, and Dr. Philip Mills Jones, San Francisco, secretary of the State Board of Health, with the object of effecting a local organization. After addresses by the visitors, an organization was formed, with Dr. Homer O. Bate, president, and Dr. Joseph M. Holden, secretary.

NORTHERN CALIFORNIA MEDICAL ASSOCIATION.—This association completed its organization at Redding, October 23, by electing the following officers: Dr. Clarence E. Reed, Redding, president; Dr. Thomas J. Edgecomb, Shasta, vice-president; Dr. Robert F. Wallace, Redding, secretary and treasurer; Drs. Sherman T. White, Redding, Robert T. Legge, Siskiyou, and Lucian A. Bauter, Redding, executive committee, and Drs. Ferdinand Stabel, Redding, and George E. Flora, Igo, finance committee.

Georgia.

ELBERT COUNTY MEDICAL SOCIETY.—The physicians of Elbert County met at Elberton, November 15, to discuss the organization of a county medical society.

GEORGIA MEDICAL—CHATHAM COUNTY MEDICAL SOCIETY.—At a joint meeting of the Georgia Medical Society and the Chatham County Medical Society, held in Savannah, October 27, preliminary measures were taken to amalgamate the two societies, in conformity with a resolution passed at the last annual meeting of the state medical association, providing for one society in each county. The meeting was called by Dr. John S. Howkins, Savannah, councilor of the First District, who presided, and Dr. Martin J. Cooley, Savannah, acted as temporary secretary. A constitution and by-laws were adopted as prescribed by the American Medical Association.

MERIWETHER COUNTY MEDICAL SOCIETY.—The physicians of this county met in Greenville, October 18, and organized a county medical organization, with the following officers: Dr. Edward B. Terrell, Greenville, president; Dr. Jesse S. Snead, St. Marks, vice-president; Dr. Pryor W. Fitts, Greenville, secretary and treasurer, and Drs. John W. Pinkston, Greenville, F. H. Letson, Lone Oak, and Charles E. Stipe, Odessadale, censors.

SOUTH GEORGIA MEDICAL ASSOCIATION.—This association was organized at Cordele, November 1, under the auspices of the Georgia Medical Association, with the aid of Dr. R. E. Lee Barnum, Richland, councilor for the third congressional district, with 15 charter members. The following officers were elected: President, Dr. J. T. Gammage, Pine View; vice-president, Dr. Archie Griffin, Luke; secretary and treasurer, Dr. Thomas J. McArthur, Cordele, and Drs. Virgie O. Harvard, Arabi, James A. Ward, Cordele, and L. A. Williams, Abbeville, censors.

WARE COUNTY MEDICAL ASSOCIATION.—This association was re-organized at Waycross, October 20, on the standard plan. Dr. Jefferson D. Herrman, Eastman, councilor for the eleventh district, was present. Dr. Robert P. Islar, Waycross, was elected president; Dr. James C. Rippard, Waycross, vice-president; Dr. H. M. Johnson, Waresboro, secretary, and Dr. F. C. Folks, delegate to the state association.

Pennsylvania.

LAWRENCE COUNTY MEDICAL SOCIETY.—At its meeting, October 5, the standard constitution and by-laws was put in effect by this society.

LUZERNE COUNTY MEDICAL SOCIETY.—At a meeting of this society, October 5, Dr. Fell reported on the recent meeting of the state medical society in Scranton and gave a draft of the proposed new by-laws, which provide that any reputable physician, regardless of his school of medicine, is eligible for membership in the state and county societies, provided he carry on his work as a general practitioner and agree to practice nonsectarian medicine.

Dr. McCormack's Tour.

The Texas meetings have proved to be very successful, some of them the largest ever held in Texas. At many of the meetings there were present, in addition to the physicians, a good representation of teachers, lawyers, legislators, preachers and druggists.

Some of his meetings were as follows: Galveston, November 6; Houston, November 7; Waco, November 8; Fort Worth, November 10; Dallas, November 13; Tyler, November 15; Paris, November 17; Bonham, November 20, and Gainesville, November 23.

As the strongest arguments for organization Dr. McCormack detailed the benefits to the profession and to the laity that would be sure to follow. He compared the general pleasant relations among lawyers with traditional discord among doctors. The lawyers are on good terms because they are frequently closely associated in court and become well acquainted in the ordinary course of their professional work. Physicians work in isolation and must create for themselves the needed opportunity for mingling—the county medical society. Mutual acquaintance paves the way for the co-operation that is essential to the profession if it is to accomplish the great things for which its knowledge fits it. Postgraduate study was urged on every physician as indispensable to real success. Physicians and laity should support the anti-nostrum crusade so well begun by prominent lay journals. [In this connection Dr. McCormack writes that a surprisingly large number of country papers are republishing the *Collier's* exposures and delaring their independence of the now notorious "red clause."]

From Dallas, Texas, there comes news that Dr. McCormack's appeals have already borne fruit. It is announced that joint meetings will be held of the physicians with, first, the lawyers (to discuss legislation and medical testimony), and second, with the clergy, for the purpose of arranging for co-operation in efforts to improve social conditions.

Society Proceedings

COMING MEETINGS.

Southern Surgical and Gynecological Association, Louisville, Ky., Dec. 12-14.
American Dermatological Association, New York, Dec. 28-30.
Western Surgical and Gynecological Association, Kansas City, Mo., Dec. 27-28.

BOSTON MEDICAL LIBRARY MEETING.

Regular Meeting, held Nov. 15, 1905.

DR. RICHARD C. CABOT in the Chair.

The purpose of the meeting was to demonstrate the practical usefulness of "moving pictures" in teaching students or illustrating medical subjects.

DR. WALTER B. CHASE of Brookline told of the rapid developments of this work during the past few years and of his own application of it. He demonstrated the special camera needed, the films, etc., and explained how they are prepared. He has taken in this way about 37,000 pictures, of which 22,000 are of epileptic seizures, including all classes of cases, even the "status epilepticus." They were taken at the Craig Epileptic Colony at Sonyea, N. Y. Other pictures shown by the biograph were athetosis, rhythmic idiots, nystagmus and a variety of gaits. He believes that soon it will be possible to show the heart beating, and the pupil of the eye dilating and contracting.

DR. W. B. CANNON demonstrated, also by the biograph, the movements of the stomach and intestines. These pictures

were obtained by the *x*-ray fluoroscope, the food having been impregnated with bismuth subnitrate. Outline pictures were traced successively and photographed on the biograph film. The results as thrown on the screen clearly showed the waves of motion near the pylorus of the stomach and the quiet at the cardiac end. The latter suggests an opportunity for the salivary digestion. In the small intestine he showed that peristalsis is less frequent than "rhythmic segmentation." In the upper part of the large intestine, close to the ileocecal valve, a distinct anti-peristalsis was demonstrated—the last effort of the digestive tract to separate nutriment from the food.

DR. R. C. CABOT demonstrated five pictures of pyopneumothorax. The camera was located directly over the cadaver, and photographs were taken as the autopsy progressed while the organs were *in situ*, the photographs being colored to accord with the actual specimens. One unique fact thus made prominent was that in left-sided effusion the entire mediastinum is pushed to the right, the relative position of the heart being maintained.

SOUTHWESTERN TRI-STATE MEDICAL ASSOCIATION OF TEXAS, OKLAHOMA AND INDIAN TERRITORY.

Sixth Annual Session, held in Oklahoma City, Nov. 8-9, 1905.

The President, DR. W. R. BLAILOCK, Dallas, Tex., in the Chair.

Welcome.

The address of welcome on behalf of Oklahoma City was delivered by the Hon. B. M. Dilly, in place of Mayor Messenbaugh, who was unable to be present. Dr. Vene P. Armstrong, Dallas, Texas, responded. Dr. William T. Salmon, Oklahoma City, welcomed the visitors in behalf of the medical profession, and to this address Dr. James C. Loggins, Ennis, responded. President T. D. Turner, of the Chamber of Commerce, then welcomed the association in the name of that body and extended an invitation for a car ride.

Treatment of Insane.

DR. JOHN S. TURNER, Terrell, Texas, in a paper entitled "Therapeutics Employed in the Treatment of the Insane," referred to the false economy of commonwealths in the profession for the insane and especially in the way of cottage treatment. He urged the great need of the proper transfer of nervous patients to reliable and reputable sanatoria for skilled treatment and proper feeding. He strongly commended care in feeding insane patients and urged the advantage of natural sleep over that induced by narcotics. He declared it often to be absolutely necessary that friends and relatives be kept away from patients.

Mental Responsibility.

HON. B. F. BURWELL, Oklahoma City, in his address on this subject, urged that physicians and surgeons make a special study of insanity in order that when they are called into court to offer expert testimony they may be qualified so to act. The problem of whether or not an individual committing a crime is mentally responsible is one of the greatest importance in the trial of criminal cases, as insanity is so often made the defense. The speaker urged physicians so to prepare themselves that they might be able to determine whether or not in any given case the defendant was insane and, if necessary, the extent of the mental alienation.

Division of the Fee.

A warm discussion arose during the discussion on the division of fees. It was found to be the consensus of opinion of those present that there should be no secret in such cases, and that the honorable course is to present separately the bill of the specialist and that of the physician who brings the patient to him. Such a course would remove from the patient any suspicion of unfair dealing.

Banquet.

The banquet held at the Threadgill was attended by 110 members, and Dr. A. De Bord Young, Oklahoma City, acted as toastmaster.

Election of Officers.

The following officers were elected: President, Dr. George W. West, Eufaula, I. T.; vice-presidents, Drs. Edward H. Troy, South McAlester, I. T.; Richard T. Edwards, Oklahoma City, Okla., and George H. Moody, San Antonio, Texas; secretary and treasurer, Dr. Rufus J. Crabill, Allen, I. T.; chairman of section on surgery, Dr. Charles M. Rosser, Dallas, Texas; materia medica and therapeutics, Dr. Mahlon A. Kelso, Enid, Okla.; eye, ear, nose and throat, Dr. L. Haynes Buxton, Oklahoma City, Okla.; state, medical and public hygiene, Dr. Arthur L. Anderson, Wilburton, I. T.; practice of medicine, Dr. Warren F. West, Waxahachie, Texas; diseases of children, Dr. U. A. D. Callamo, Coalgate, I. T., and obstetrics and gynecology, Dr. William B. Pigg, South McAlester.

South McAlester was selected as the next place of meeting, on Oct. 16 and 17, 1906.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Treatment of Colic.

In making a diagnosis of colic, several things which may cause pain should be considered. According to Hutchison, whenever an infant screams almost constantly the possibility of colic should be thought of. Other causes for such outbursts may cause a mistake in the diagnosis. One of these is earache, another is teething, and there are still others, such as renal colic, phimosis, and tenderness of bones, as in scurvy. One of the signs, also, of defective cerebral development in young infants is screaming without any apparent cause. Colic, however, is commoner than all the other causes put together. The important signs of colic are hardness of the abdomen, the tendency to draw up the legs, and perhaps convulsions. When there is passage of flatus there is a cessation of screaming for a time, and this latter is the most positive symptom of colic.

In the treatment of an attack of colic, the first thing to be done, according to Hutchison, is to apply warmth to the abdomen. This can be done by means of friction with warm oil, by warm fomentations or by poultices of linseed or mustard; in extreme cases the mustard bath may be used. In addition to the external application of warmth, it can be applied internally by means of enemas of warm water. Two or three ounces of water should be injected as hot as the child can bear it; an effort should be made to reach as much of the large intestine as possible.

Carminatives should be given by the mouth in order to aid in the expulsion of flatus. Peppermint water and dill water are both suitable for this purpose. Ten drops (.65) of spiritus etheris nitrosi (sweet spirits of nitre) is also recommended and preferred by some authorities. Such measures as the foregoing, according to Hutchison, are usually effective in cutting short an attack of colic.

The next question to consider is how to prevent the recurrence of the attack. The author divides the cases into two groups: Infants that are breastfed and those which are bottlefed. Inquiry will usually show that the breastfed infant is nursed too frequently and often at irregular intervals. In such cases the simple regulation of nursing suffices. The time between the feedings should usually be lengthened. The mother is inclined to overfeed the child, because of the temporary relief afforded by the warm milk in the child's stomach, which, however, is frequently followed by a severe attack of colic, and in this way a vicious circle is formed. The clock should be brought into use in such cases to correct the irregular intervals between feedings. The presence of too much casein is responsible for the attacks in a great many cases. When such is the case, the administration of a few teaspoonfuls of lime water before each feeding is of advantage; it should be sweetened slightly to make it more palatable for the child. If the infant is constipated, as is so often the case in breast-fed children, this condition should by all means be corrected. On the other hand, bottle-fed infants are troubled with diarrhea, which must be corrected.

In the treatment of the constipation, a drastic cathartic, such as a large dose of castor oil at irregular intervals, should never be given. Massage should be applied to the abdominal muscles over the course of the colon, twice a day, morning and evening, for five or ten minutes at a time.

In the use of medicines to correct constipation, only those should be selected which have a tonic action on the coats of the intestine. To meet these indications, the following combination is recommended by the author:

R. Tinct. aloes	gtt. iii-v	20-.30
Syrupi sennæ	gtt. xx	1 30
Tinct. belladonnæ	gtt. ii	12
Tinct. nucis vomicæ	gtt. ss	03
Infusi gentianæ co. q. s. ad	ʒi	4

M. Sig.: To be taken at one dose as a laxative.

The size of the dose should depend on the age of the child. The author recommends the addition of dill water, cinnamon water or peppermint water to the foregoing, if necessary to modify the taste and as a carminative.. In mild cases it may be necessary to give only one dose of the foregoing at night; in other cases it may be necessary to give it at regular intervals two or three times a day until the action of the bowels takes place at regular intervals, after which the medicine should be gradually discontinued.

If for any reason the foregoing combination does not meet the requirements of the case, or if vomiting is produced on account of the bitter taste, the confection of sulphur is recommended, giving half a teaspoonful (200) at night, or both morning and night, as infants will take it very readily. If, after correcting constipation, the colic persists and the child is losing weight, the question of changing the food should be considered.

In the prevention of colic in bottle-fed infants, cleanliness in preparing the milk is frequently wanting, in addition to the conditions already mentioned.

In all cases of colic, carminatives administered between the feedings are recommended by Hutchison. The carminative should contain certain definite ingredients and should be alkaline in reaction. For this purpose he recommends the following combination:

R. Sodii bicarb.	gr. iiss	15
Spts. ammon. arom., ää	gtt. iiss	15
Glycerini	m. ii	12
Aq. menthæ piperitæ q. s. ad	ʒi	4

M. Sig.: To be given to the infant at one dose, and repeated as necessary between the feedings.

The glycerin is preferred to syrup to render the taste pleasant on account of the liability of the latter to ferment. In addition to keeping the child warm, if it gains weight, one is perhaps not justified in producing too great an alteration in the food. Under such circumstances, opium in some form is recommended. The best preparation, according to this author, is codein given in doses of grain 1/40 to 1/30 (.0015-.0020), combined with glycerin and peppermint water. [While Hutchison recommends this dosage, it should be remembered that children are susceptible to opiates, and that it might be advisable to start with a smaller dose.] A combination similar to the following is recommended by some authors to relieve the colic of infants:

R. Spts. etheris comp.		
Aq. camphoræ, ää	ʒii	8
Aq. menthæ viridis	ʒiv	15
Aq. dest.	ʒiii	12

M. Sig.: One teaspoonful every two or three hours, to a child 2 or 3 years of age. Or:

R. Tincture opii camph.	gtt. xl	2 65
Essentiæ feniculi	m. iv	15
Syrupi zinziberis q. s. ad	ʒii	60

M. Sig.: Fifteen to thirty drops in water every two hours to children under one year of age.

Psoriasis.

As an internal remedy in the treatment of psoriasis, the following combination is recommended by *Merck's Archives:*

R. Sulphuris precipitatæ	gr. iii	20
Salol	gr. ii	12
Olei gaultheriæ	m. ss	03
Acidi arsenosi	gr. 1/30	002

M. Ft. capsula No. i. Sig.: One such capsule three times a day for an adult.

Sulphur in the Treatment of Chronic Nasal Catarrhs.

Kolipinski, in *Med. News*, states that sulphur is valuable in the treatment of simple chronic rhinitis, in the hypertrophic stage. Intumescent rhinitis is relieved by this preparation, but its effects in atrophic rhinitis are not so effective as during the earlier stages. In phlegmonous rhinitis the disease is often aborted by it. Scrofulous rhinitis, he says, can also be improved by its application. The immediate effects of sulphur are to check the purulent irritating discharge, to heal the excoriations, to improve the patient's pale and languid appearance and to stop the sniffling, sneezing, crust formation and odor. In epistaxis from any cause this is regarded by the author as one of the best preparations, but should be reinforced for twenty-four hours with a gauze tampon. It is a splendid postoperative dressing in surgery of the nasal cavities. The best preparation is the official sulphur precipitatum, United States Pharmacopeia. In the treatment of rhinitis, applications of sulphur should be made to the nares two or three times a week for one month, and then less frequently. It should be insufflated into the nares by means of an ordinary powder blower.

Treatment of Roentgen Ray Burns.

Engman, in an article in the *Ther. Gazette*, recommends, in the treatment of burns from the Roentgen ray, that the exposures be discontinued and lanolin applied for twenty-four hours, after which the following combination is recommended:

R. Acidi borici	ʒiss	45
Zinci oxidi		
Bismuthi subnit.		
Pulv. amyli, ää	ʒi	30
Olei olivæ		
Aquæ calcis		
Lanolini, ää	ʒiii	90
Aquæ rosæ	ʒiss	45

M. Ft. unguentum. Sig.: Apply locally to the affected areas.

Satterlee, in the same periodical, recommends the following combination in the treatment of this condition:

R. Acidi carbolici	ʒiv	15
Aquæ rosæ	ʒiv	120

M. Ft. solutio. Sig.: Apply locally.

Tuberculous Glands.

The following combination is recommended by Thornton, in Denver *Medical Times*, in the treatment of tuberculous glands:

R. Syr. ferri iodidi	m. v	30
Olei morrhuæ	m. xx	1 30
Ext. pancreati	gr. i	06

M. Ft. cap. No. i. Sig.: One or two such capsules two hours after each meal.

E. P. Davis recommends, in addition to tonics, the following combination as an ointment:

R. Ichthyol	gr. x	65
Ung. zinci oxidi		
Lanolini, ää	ʒii	8

M. Ft. unguentum. Sig.: Apply locally night and morning.

Suprarenal Extract in Asthma.

Dr. G. W. Kirby, Millersburg, Ind., calls attention to the marked opportunity before the physician to fulfill his high aim of relieving suffering and of prolonging life by relieving the intense suffering produced by a severe asthmatic attack. He declares that more rapid relief can not be obtained in any condition than that secured in the use of the blood-raising principle from the suprarenal gland. He injects subcutaneously from 8 to 15 drops of adrenalin, which has been diluted with an equal amount of sterile water. This affords the patient almost instant relief. Aside from a throbbing sensation in the head and a weakness of the limbs due to the stimulation of the heart, no bad results follow. To my knowledge, he continues, this drug has not been advertised to be used in this condition, nor have I known of its general use in practice. It gives some relief in every case, but its chief use can be considered specific in the treatment of the spasmodic form of asthma, where so much morphia is given.

Medicolegal

To Prevent the Buying and Selling of Infant Children.

No. 154 of the Laws of Pennsylvania of 1905 provides that if any person or persons shall, within that state, trade, barter, buy, sell, or deal in humanity, by trading, bartering, buying, selling, or dealing in infant children, he, she, or they shall be guilty of a misdemeanor, and on conviction thereof shall be sentenced to pay a fine not exceeding $1,000, or undergo an imprisonment not exceeding five years, or both, at the discretion of the court.

Use of Preservatives in Food Products.

No. 7 of the Public Acts of Michigan of 1905 provides that no person, firm or corporation shall manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any food product containing benzoic acid or benzoate of sodium, or any other harmless preservative, unless each and every package containing the same shall, in the condition in which it is exposed for sale, be distinctly, conspicuously and legibly branded, labeled or marked, in plain English letters, with the words "prepared with" followed by the proper English name of the preservative used; provided, that nothing in this act shall be construed to prohibit or regulate, by branding or otherwise, the use as a preservative of common salt, syrup, sugar, saltpetre, spices, alcohol, vinegar or wood smoke; and provided, further, that the provisions of this act shall not apply to dairy products.

New Grounds for Revoking Certificate.

No. 161 of the Public Acts of Michigan of 1905 amends the sixth division of section 3 of the medical practice act as amended in 1903 providing that the State Board of Registration in Medicine may revoke the certificate of registration, after due notice and hearing, of any registered practitioner for certain causes by adding thereto: "Or who for the purpose of procuring patients employs any solicitor, capper or drummer; or who shall subsidize any hotel or boarding house; or pay or present to any person money or other valuable gift for bringing patients to him."

No. 207 of the public acts of 1905 amends section 7 of said practice act by making the penalty for practicing medicine or surgery without a certificate of registration a fine of not more than $200, or imprisonment in the county jail for a period of not more than six months, or such fine and imprisonment, for each offense.

Restriction on Marriage.

Chapter 136 of the Public Acts of Michigan of 1905, in addition to retaining the prior provision that no insane person, idiot, or person who has been afflicted with syphilis or gonorrhea and has not been cured of same, shall be capable of contracting marriage, provides that no person who has been confined in any public institution or asylum as an epileptic, feeble-minded, imbecile or insane patient, shall be capable of contracting marriage without, before the issuance by the county clerk of the license to marry, filing in the office of the said county clerk a verified certificate from two regularly licensed physicians of the state that such person has been completely cured of such insanity, epilepsy, imbecility, or feeble-mindedness, and that there is no probability that such person will transmit any of such defects or disabilities to the issue of such marriage. Any person of sound mind who shall intermarry with such insane person or idiot or person who has been so confined as an epileptic, feeble-minded, imbecile or insane patient in any public institution or asylum, except on the filing of certificate as herein provided, with knowledge of the disability of such person, or who shall advise, aid, abet, cause, procure or assist in procuring any such marriage contrary to the provisions of this section, shall be deemed guilty of a felony and on conviction thereof shall be punished by a fine of not more than $1,000 or by imprisonment not less than one year nor more than five years, or by both such fine and imprisonment in the discretion of the court.

Provides for Sanatorium for Treatment of Tuberculosis.

No. 254 of the Public Acts of Michigan of 1905, an act to establish a state sanatorium in some suitable locality in Michigan, for the care and treatment of persons having tuberculosis, provides for a board of six trustees, four of whom shall be legally registered physicians, to be appointed by the governor. The trustees shall appoint a medical superintendent, not a member of the board, who shall be a legally qualified physician, of at least six years' experience in the practice of his profession, and who shall be chosen with a special view to his professional and executive ability. The medical superintendent, with the consent of the board of trustees, shall appoint such other officers, assistants and employes in and for the sanatorium as may be necessary, provided that all medical officers shall be well educated physicians. The medical superintendent shall be chief executive officer of the sanatorium. He or his representative shall daily ascertain the condition of each and all the patients, and prescribe or direct their treatment. There shall be received into the sanatorium such persons as shall be proved by proper bacteriologic or clinical examination to be suffering from tuberculosis. Such patients shall be of two classes, namely, first, persons resident of the state who on account of their poverty are unable to pay the necessary expenses for residence at the sanatorium; and, second, residents of the state who are able to pay such fees as shall be fixed by the board of trustees.

Provisions for Psychopathic Research.

No. 140 of the Public Acts of Michigan of 1905 provides that the joint board of trustees of the asylums for the insane of the state, in conjunction with the board of regents of the State University, shall select and employ from time to time an experienced investigator in clinical psychiatry, who shall be placed in charge of the psychopathic ward on the hospital grounds of the State University, and whose duty it shall be to conduct the clinical and pathologic investigations therein, to direct the treatment of such patients as are inmates of the psychopathic ward, to guide and direct the work of clinical and pathologic research in the several asylums of the state, and to instruct the students of the medical department of the university in diseases of the mind. In the conduct of this work he shall be allowed such graduate assistants as may be necessary and as the said board may approve. The said pathologist shall establish and maintain in said psychopathic ward a clinical laboratory of research in which investigations shall be continuously carried on with a view of determining the nature and causes of insanity and of perfecting the means of prevention and cure of diseases of this nature. Said pathologist shall make an annual report to the governor of the state on or before the first day of July of each year, of the medical work carried on at the psychopathic ward and in the clinical laboratory of research, and copies of such report shall be sent to the several boards of trustees of the various state asylums and to the board of regents of the State University. It shall be the privilege of the trustees of each public asylum of the state to have at any and all times at least one member of the medical staff of said asylum in the psychopathic laboratory of clinical research for special study, instruction and research.

To Secure Pure Foods.

Chapter 33 of the Laws of Wisconsin of 1905 makes it unlawful to manufacture, sell, ship, consign, offer for sale, expose for sale or have in possession with intent to sell for use or consumption within the state any article of food within the meaning of section 4600 of the statutes of 1898 and laws amendatory thereof (which would seem to make the term food include all articles used for food or drink), which contains formaldehyd, sulphurous acid or sulphites, boric acid or borates, salicylic acid or salicylates, saccharin, dulcin, glucin, beta naphthol, abrastol, asaprol, fluorids, fluoborates, fluosilicates or other fluorin compounds, or any other preservatives injurious to health; provided, however, that nothing contained in this section shall prohibit the use of common salt, saltpetre, wood smoke, sugar, vinegar and condimental preservatives, such as turmeric, mustard, pepper and other spices. Nor shall any article of food be manufactured, etc., containing any

added substance, article or ingredient possessing a preservative character or action other than the articles named in the proviso of this act, unless the presence, name and proportionate amount of said added substance, article or ingredient shall be plainly disclosed to the purchaser.

Chapter 104 of the Laws of Wisconsin of 1905 amends section 4601a of the statutes of 1898 so as to make it unlawful to pack, can or preserve within the state, for use or consumption therein, fruits, vegetables, meats, fish or shellfish, or to sell, etc., for such use such canned articles containing saccharin, formaldehyd, sulphurous acid or sulphites, salicylic acid, or salicylates or any substance, article or ingredient other than sugar, salt, vinegar or spices, possessing a preservative character or action, or any copper compound or other artificial coloring, or any bleaching compound, or any article injurious to health.

Chapter 138 of the Laws of Wisconsin of 1905 prohibits the sale or delivery of adulterated milk or cream. Chapter 151 forbids the selling for maple sugar or maple syrup anything but the pure, unadulterated article. Chapter 152 is an act relating to the sale of syrups, molasses and glucose mixtures. Chapter 228 relates to the manufacture or sale of lemon extract and vanilla extract. Chapter 229 prohibits the sale of adulterated honey. Chapter 247 provides a standard for condensed milk and for evaporated cream.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Medical Record, New York.

November 18.

1 *Treatment and Care of Advanced Cases of Pulmonary Tuberculosis. S. A. Knopf, New York.
2 *Primary Cryptogenic Pneumococcus Cerebrospinal Meningitis. R. C. Cupler, Chicago.
3 *Penetrating Gunshot Wound of the Abdomen. J. H. Iden, U. S. N.
4 *Case of Typhoid Fever with Triple Intussusceptions. B. L. Bryant, Bangor, Maine.
5 *Antitoxin of Unusual Dosage in a Case of Scarlet Fever Complicated by Diphtheria. St. C. Streett, Kansas City, Mo.
6 Case of Anthrax—Probably Due to Inoculation—Without a Visible Initial Lesion. J. D. Jones, Utica, N. Y.

1. Treatment of Advanced Cases of Pulmonary Tuberculosis.—Knopf regards as advanced those cases of pulmonary tuberculosis that can no longer be classified as incipient or early. The advanced cases are divided into ambulant and bed cases. The former are those patients who are most of the time without fever, and in whom the systemic disturbances are only a little more aggravated than in the early stage. These cases may be treated as incipient, with the one exception, that if there is not a satisfactory gain in weight the patients should be put at rest in bed or on the reclining chair, constantly exposed to the open air. The ambulant patients are the most frequent sources of infection, and the greatest care must be taken to train them to dispose of their sputum properly. Several plans for accomplishing this are described. The bed cases are subdivided into four classes, namely, sanatorium patients, hospital patients, home patients—well-to-do, living either in cities or country—and the consumptive poor, living in villages or in city tenements. It is a matter of great difficulty to find proper accommodations for such patients, as sanatoria are usually unwilling to receive cases that do not offer a favorable prognosis. Knopf outlines the essentials for the institutional treatment of such patients, and then describes a great number of plans for applying the fresh-air principle in home treatment. One of the most serviceable of these, especially in dealing with the poor in cities, is a device invented by Knopf and known as the window tent. The patient lies on a cot, with his head beside the open window, to which is attached a sort of internal awning. This is arranged so that it shuts off the patient's head from the interior of the room, and permits the latter to be kept warm, while the effect is the same as if the patient were entirely out of doors. Other devices that are recommended are Bull's aërarium and Kellogg's *porte d'air*. These are intended to serve the same purpose of permitting the patient to remain indoors, while at the same time he is enabled to receive fresh air as freely as if he were not in the house.

2. Primary Cryptogenetic Pneumococcus Cerebrospinal Meningitis.—Cupler reports three cases of cerebrospinal meningitis in which pneumococci were found in the cerebrospinal fluid removed by lumbar puncture. One patient recovered after an illness of five weeks; the other two died at the end of thirty-six and forty-eight hours, respectively. Cupler has found caffein citrate excellent in combating the paralysis of respiration, and recommends lingual traction if stupor is deep and cessation of breathing imminent. Of lumbar puncture he says that it relieves the intracranial pressure, lessens the severity of the symptoms, assists in diagnosis, and meets the requirements of a rational principle in treatment.

3. Penetrating Gunshot Wound of Abdomen.—Iden's patient, aged 28 years, was accidentally shot in the abdomen in the region of McBurney's point, with a 32-caliber revolver. About four hours later, the abdomen was opened in the median line and was found full of blood. Nineteen perforations of the small intestine were discovered, as well as several wounds of the mesentery. At one place there were five perforations in four inches of gut, necessitating resection. End-to-end anastomosis was done, using the Cushing suture, and the other perforations were closed with purse-string sutures. The intestines were cleaned with gauze, wet with hot salt solution, and the wound closed without drainage. The operation consumed two and one-half hours, and at its close the pulse was imperceptible at the radial, facial, and temporal arteries, and the heart beats were from 170 to 180 a minute. In spite of the grave condition of shock, the patient rallied very quickly, and the wound healed by primary intention, the man returning to his work, perfectly well, fifty-one days after the operation.

4. Typhoid with Triple Intussusceptions.—Bryant and Bragg report this case. The patient was a man, aged 23, who, thirty-eight days after the first symptoms of his typhoid infection, which up to then had run an uneventful course, was suddenly seized with pain in the right iliac region, rise of temperature, and symptoms of shock. A perforation was suspected and the abdomen opened. It was found filled with clear serum, and, on drawing out the small intestine, a short distance from the ileocecal juncture an intussusception was found about eight inches long, invaginated both ways. A short distance further on a second intussusception was found about five inches in length, also invaginated both ways; and, drawing out more gut, there was a third intussusception about three inches long, invaginated from the right. Beyond this the gut appeared normal in color, excepting the infiltrated patches and lymph nodes due to the typhoid infection. Reduction of the invaginations was easily accomplished, but the patient died in shock five hours later.

5. Unusual Dose of Antitoxin.—Streett describes a case of scarlet fever, complicated by diphtheria, in which only after 67,000 units of antitoxin had been administered was there any response to treatment. The fresh product of two reliable firms was used. Streett says that the experience teaches the propriety and necessity of continuing the use of antitoxin even when the patient does not seem to respond to it, and the further necessity of increasing the dose administered until such time as results are obtained.

American Medicine, Philadelphia.

November 18.

7 *Clinical Experiences with Certain Drugs in Heart Disease. T. E. Satterthwaite, New York.
8 *An Area of Endemic Goiter in the Philippine Islands. L. C. Duncan, Manila, P. I.
9 *The Retroverted Uterus. A. P. Stoner, Des Moines, Iowa.
10 *Struggle Against Tuberculosis in Pennsylvania. J. M. Wainwright, Scranton, Pa.
11 Mental and Moral Effects of the Removal of Adenoids. E. A. Huntington, Philadelphia.

7. Clinical Experiences with Certain Drugs in Heart Disease.—Satterthwaite regards suprarenal gland as the most powerful heart stimulant known. As to the dangers from the nitrites and nitrates, he finds that their effects are always evanescent. Ordinarily in angina, in hypertension and in arteriosclerosis they are useful, but if they produce violent pulsation in an arteriosclerotic patient they should be suspended.

He says that iodin in some form or other should be the main reliance. Strychnin is a reliable heart stimulant, but should be used with discretion and in moderate doses. Larger doses produce nervousness and insomnia. It should never be continued more than a week or two at a time. Cactus is a good heart regulator, and strophanthus is excellent if prompt action is needed. Digitalis acts best when the arteries are flaccid, and just enough is given to restore normal tension. If the drug produces too much tension, the work of the heart is unnecessarily increased. In acute endocarditis, the fat heart, fatty degeneration, advanced arteriosclerosis, aortic diseases and in cardiac neuroses, digitalis may do serious harm. In deficient or failing compensation, digitalis is useful up to the point of producing normal arterial tension, after which its action is harmful, except in so far as it may increase diuresis. Circulatory depressants, such as antimony, veratrum, pulsatilla and hellebore are out of date, he states, in the treatment of cardiac diseases; but aconite is useful in cardiac neuroses. Satterthwaite places great reliance on camphor. In small doses it is a diffusible stimulant, improving the circulation and relieving arterial pressure, but it is also an antispasmodic and sedative. In threatened heart failure, if the nitrites fail, ammonium carbonate or oxygen, hypodermics of camphor in sterilized oil, may properly be used. Three-hundredths gram (½ gr.) to .13 gm. (2 gr.) may be dissolved in sterilized olive oil and injected hypodermically in divided doses.

8. Area of Endemic Goiter in Philippines.—Duncan reports goiter as being very prevalent in the municipality of Macabebe, which is but a few feet above sea level, on the northeast shore of Manila Bay. He ascribes the disease to the lack of potable water and to consanguinity and heredity which favor the continuance of the affection. Duncan estimates that in 1904 there were at least 20 cases per 1,000 of population and that the proportion is probably much greater.

9. Retroverted Uterus.—Stoner asserts that in many cases of recent dislocation in which the pelvic floor is intact the uterus may be replaced and retained without the use of instrumentation or operative procedure. A few such patients are permanently cured by prolonged rest, faradism, hot douches, and tamponment with gauze saturated with a preparation of ichthyol and glycerin. The tampon should be changed daily and snugly packed in front of the cervix, in order to prevent it from rotating forward. It thus aids in supporting the uterosacral ligaments. Nearly all supports act largely by their pressure on the uterosacral ligaments, which, in being rendered tense by the posterior upright bar of the pessary, the cervix is swung upward and backward. When, however, the pessary is withdrawn, the ligaments relax and the cervix drops downward and forward.

10. Struggle Against Tuberculosis in Pennsylvania.—Wainwright says that local boards of health take no cognizance of tuberculosis except in Philadelphia and in Erie. In Scranton and Pittsburg sputum is examined. In both state prisons efficient measures are being taken to prevent the spread of infection. Five societies have been formed to combat tuberculosis. They are in Philadelphia (state society), Pittsburg, Harrisburg and Scranton. An obstacle to progress in this work is the very general failure to make an early diagnosis and indifference to preventive measures when it has been made. Another serious menace is the general medical dispensary. In one dispensary in Philadelphia, last year nearly 900 people of the poorer classes were treated and in none of them was tuberculosis diagnosed. Wainwright recommends: 1. A state commission on tuberculosis should be appointed to frame legislation governing health boards and to determine the best system for sanatoriums. 2. Compulsory divisions for diseases of the lungs should be enforced in all dispensaries receiving state aid directly or indirectly through the hospitals or schools to which they belong. 3. The State Society for the Prevention of Tuberculosis should be put on a state basis with annual meetings at the same time and place as the state medical society; this society to collect material for an exhibit to be given together with public lectures in each city in which it meets. In this way, each large city in the state would be reached in a few years. The state society should do missionary work and should establish local societies in communities now without them.

Medical News, New York.

November 25.

12 Reminiscences of Dr. Thomas Addis Emmet. By Himself.
13 *Further Evidence of Immunity Against Cancer in Mice After Spontaneous Recovery. G. H. A. Clowes and F. W. Baeslack, Buffalo, N. Y.
14 *Female Type of Hand in Extension; or Sigmoid Carpus. R. Kingman, Brooklyn, N. Y.
15 *Diplococci and Pneumococci; Their Pleomorphism, Virulence and Mode of Causing Disease. E. Paller, New York.
16 Digitalis Treatment. F. Schwyzer, New York.
17 Partial Turbinectomy. C. H. Knight and J. F. McKernon, New York.

13. Immunity Against Cancer.—Clowes and Baeslack present the results of studies made by them on cancer immunity. About 1,600 mice have been employed in these experiments relating to the transplantation and development of the Jensen tumors. Thirty mice which had recovered spontaneously of genuine tumors or had been cured of their tumors by serum injection were reinoculated, and of this number 10 were inoculated for the third time. In no case did a tumor develop as a result of inoculation on a mouse which had previously recovered from a true tumor. By mixing cancer materials previous to inoculation with the serum of such spontaneously recovered mice and comparing its effect with that of cancer materials from the same source mixed with serum from normal mice, it was found that the former exerted an inhibiting effect, and that the percentage of tumors is much smaller and the percentage of mice surviving the treatment is larger in the immune than in the normal series. The author feels justified in announcing that all evidence thus far obtained in this field of research is distinctly in favor of the hypothesis that an immune body is present in mice which have recovered spontaneously from malignant tumors.

14. Female Type of Hand.—Kingman attempts to establish a characteristic difference in the male and female hand when in a position of extension under normal conditions, believing that further study and observation may show the absence of the sigmoid type in the female and its presence in the male to be of some diagnostic value in conditions of disease. It appears that males who live and work and think on a plane of continued high tension often exhibit the feminine form of hand. The position assumed by the normal female hand is designated by Kingman as the sigmoid carpus. By this is meant a double or S-shaped curve of the wrist and hand involving the portion of the upper extremity from the tips of the fingers to, and including, the lower ends of the radius and ulna. This S curve is made up of two parts, one being formed by flexion at the wrist where the carpus articulates with the ulna and radius, and the other by overexertion at one or more of the three finger joints (the first and second phalangeal and the metacarpophalangeal or knuckles). Viewed from above, the proximal arc of the S is convex and located at the wrist joint, while the distal arc is concave and located at one, two or three of the phalangeal articulations. From below, the reverse, of course, presents a proximal concave joined to a distal convex arc. The sigmoid carpus may best be observed in profile from the ulnar aspect of the hand, the characteristic appearance being somewhat obscured on the radial border by the thumb.

15. Diplococci and Pneumococci.—Paller emphasizes the fact that the only reliable method of diagnosing pneumonia bacteriologically is to obtain cultures from the blood of patients suspected to have this disease. Furthermore, the cultures so obtained must be virulent to mice. Smear preparations or cultures from the sputum are valueless.

New York Medical Journal.

November 25.

18 Direct Fixation of Fractures. J. B. Roberts, Philadelphia.
19 Skiagraphic and Therapeutic Factors in Tuberculosis of the Bones and Joints, with Some Reference to the Iodoform Treatment. (Concluded). C. Beck, New York.
20 Short History of Splenectomy. J. H. Carstens, Detroit, Mich.
21 Plea for Routine Examination of the Middle Ear. E. Danziger, New York.
22 *Diagnosis of Gall-Bladder Disease. C. Graham, Rochester, Minn.
23 Chronic Headache, and Its Treatment by Massage (Concluded). F. Norstrom, New York.
24 Adjustment of X-Radiations for Various Physiologic Effects. R. H. Boggs, Pittsburg, Pa.

22. Diagnosis of Gall Bladder Disease.—Graham bases this paper on 135 cases seen by him and followed by operation. He

calls attention to the difficulties met with in diagnosticating disease of the gall bladder, especially when it simulates gastric ulcer, pleurisy, disease of the kidney, pancreatitis, and appendicitis. Particularly difficult of diagnosis are those cases in which the gall bladder contains but one large stone or, at most, a few large ones, and is shrunken down on its contents. In Graham's series there were 13 patients with few stones in the gall bladder; seven had but one, two had two stones, two others had three, and one had six. Of this number, two cases were duodenal ulcer, six had duodenum and stomach given first place, with gallstones or cholecystitis a poor second, five were typical enough to be little questioned as to the real trouble. In the whole series, four cases were diagnosticated duodenal ulcer, five ulcer and gallstones (twice both found), six ulcer of the stomach or perhaps gallstones, twelve were variously called stomach or duodenal ulcer, or appendicitis, too frequently failing to hint at cholecystitis or gallstones. One hundred and six cases were diagnosed without question as gall bladder trouble and the operation proved its truthfulness. In the two remaining cases stones were found when operating for pelvic tumors. One patient had a fibroid uterus, and a stone was found in the common duct with no history elicited. The second gave a history of ovarian tumor with twisted pedicle, but it was not found twisted at the operation and the gall bladder was filled with stones. Twenty-five patients were jaundiced when they presented themselves for examination and one gave a history of jaundice at the first attack. Graham says that this is too large a percentage of jaundice. The diagnosis and operation should be made while still an uncomplicated case of gallstones, when the mortality is extremely small (2.47 per cent.). If we wait for jaundice a complication has arisen which usually greatly increases morbidity and mortality (10.40 per cent.).

St. Louis Medical Review.

November 23.

25 The Cigarette, Its Relations to Mental and Nervous Diseases. W. B. Fletcher, Indianapolis, Ind.

Lancet-Clinic, Cincinnati, Ohio.

November 18.

26 *Unrecognized Responsibilities of Press and State in Conserving Health. B. Lewis, St. Louis, Mo.
27 Micrococcus Tetragenus the Immediate Predecessor of the Tubercle Bacillus. H. G. Graham, Elmdale, Kansas.
28 *Death Following Scopolamin-Morphin Injection. J. C. Sexton, Rushville, Ind.

26. See abstract in THE JOURNAL, Oct. 28, 1905, page 1353.

28. **Death Following Scopolamin-Morphin Anesthesia.**—Sexton's patient, aged 47, had been in poor health for five years, principally on account of excessive bleeding from the uterus. A diagnosis of fibroid was made and operation was advised. The patient was anemic and had a weak heart, but otherwise presented no evidence of disease, except of the uterus and ovary. She was prepared for operation as usual, and at 7:30 a. m. a hypodermic of scopolamin hydrobromate, 1/100 grain, and morphin sulphate, 1/6 grain, was given. The patient was sound asleep in fifteen minutes. At 8 a. m. she was found unconscious, slightly cyanosed, pulse 120 and throbbing, respiration 20 but very shallow, abdominal muscles and intercostals rigid, so that it was impossible to compress the lower chest and epigastria. The muscles were contracted markedly. The jaw dropped, the mouth was open, and the eyeballs were turned up. All efforts at resuscitation failed and the patient died at 9:15 a. m. without the least response to stimulants, pain, heat, flagellations or changing posture.

Boston Medical and Surgical Journal.

September 28.

29 City Physician, His Duties and Responsibilities. J. H. McCallen, Boston.
30 *Practical Photometric Method for Case Record. G. W. Fitz, Boston.
31 *Technic Employed in 100 Laparotomies with the View of Restricting the Employment of Drainage. L. J. Hammond, Philadelphia.

30. **Photometric Method for Case Records.**—To insure convenience and accuracy of handling and economy of time, expense and storage, Fitz has devised a method for photographically recording deformities. The method is briefly as follows: 1. The focus of the lens is adjusted for such selected image sizes of the subject as will give the desired ratios of size between subject and image (such as 6 = 100, 10 = 100, 14 = 100, 20 = 100, etc.). These foci and the corresponding distances of the subject from the camera are marked on the adjusting part of the camera or lens so that the focus can be instantly secured by merely setting an index to a mark and adjusting the patient's distance by means of a graduated tape or knotted string, and the photographs taken in the exact ratio without any delay for focusing or other adjustment. 2. The camera is arranged so that it will take three or four photographs of the same individual in different aspects on the same plate, thereby avoiding confusion in labelling and loss of identity of the several photographs. 3. An identifying number is photographed with each subject and absolutely identifies every photograph. 4. A transparent scale is made, based on the ratios of subject size to the image size selected for records, by which the photographic images may be measured as to any dimension, asymmetry or deformity, directly in inches or centimeters, as if one were measuring the patient himself, by the application of the scale to the face of the photograph. The apparatus employed and the methods of its use are described fully.

31. **Drainage and Laparotomy.**—Hammond's experience has convinced him of the worthlessness of the gauze drain in any shape or form, but he considers the gauze tampons, as recommended by Mickulicz, a rational means of avoiding infection of the neighboring viscera. Its value, however, is but temporary, and its presence as a foreign body not only lessens the power of resistance of the peritoneum, but goes far toward keeping up shock, encourages the excessive formation of adhesions, and is the commonest of all causes of about all of the postoperative hernias. The argument that is used by some, that gauze drainage is useful because Nature builds a wall around the infected area, can be logically employed as an argument against its use at all, as the fact that Nature does not shut out from communication with the general peritoneal cavity shows clearly its utter worthlessness.

University of Pennsylvania Medical Bulletin, Philadelphia.

October.

32 Histologic Changes Encountered in the Thymus and Elsewhere in a Case of Congenital Hypotonia. A. J. Smith, Philadelphia.
33 Natural Defenses of the Organism Against Infection. D. H. Bergey, Philadelphia.
34 Intrahepatic Gall Bladder. H. S. Wieder, Philadelphia.
35 Investigation on the Nature of the Bacteria in the Filtered Water Supply in Philadelphia. J. E. Rucker, Jr., Philadelphia.
36 *Fractures of the Head of the Radius. T. T. Thomas, Philadelphia.
37 Scopolamin-Morphin Anesthesia. H. Norris, Philadelphia.
38 Fat Content of Liebig's Meat Extract and of Witte's Peptone. J. Marshall, Philadelphia.
39 Treatment by Electricity of the Secondary Contractures Occurring in Hemiplegia. C. S. Potts, Philadelphia.

36. **Fractures of the Head and Radius.**—Thomas concludes that the skiagraph is not infallible in the diagnosis of the uncomplicated fractures of the radial head. The fragments are frequently so closely approximated by an intact orbicular ligament that the line of fracture may fail to show, especially if the place is an obscure one, or if the rays are directed in an incorrect plane. The fracture of the radial head is always partly and frequently entirely intracapsular, except for the thin attachment of the capsule to the lower edge of the fragment. This attachment probably furnishes an ample blood supply for the nutrition of the detached fragment, even if nonunion occurs. Except in very rare cases, such a fragment will not become a movable body in the joint, in the ordinary sense, since the orbicular ligament, the irregularity in the fractured surfaces, and the attachment of the fragment below will prevent movement of it. The part of the head which is broken off in the usual fall on the hand is anterior at the time of the fall; but, according to the later position of the forearm, may occupy any position within the arc of rotation of the forearm, which is approximately 180 degrees. Instead of being an exceedingly rare fracture, as hitherto believed, it is a common one, its peculiarly obscure nature having rendered it especially difficult of recognition. There are more cases of this fracture, represented by skiagraphs, in the hands of a few skiagraphers in Philadelphia (55), than Thomas could find after a thorough search of the literature (48), making a total of 103. Fractures of the neck of the radius are also common

and are usually associated with fractures of the head. They are frequently impacted, and are due to the same cause as the usual fractures of the head, i. e., to a fall on the hand with the elbow extended. Fractures of the radial head are frequently associated with posterior dislocations of the forearm bones at the elbow and with fractures of the coronoid process. In the usual skiagraph of a posterior dislocation of the elbow, showing a lateral view, the head of the radius is largely obscured by the ulna, and sometimes, also, by the condyles of the humerus; so that this fracture is probably often overlooked in such cases. In a fall on the hand the ground acts as a resisting body. The force is from above, the momentum of the falling body being exerted through the bones of the upper extremity. In extension of the elbow, only the anterior surface of the radial head is in contact with the capitellum, and, as the force is transmitted to the ground chiefly through the radius, this part of the radial head receives the brunt of the force and is frequently broken off. In an uncomplicated case, with distinct crepitus, the diagnosis will easily be made, providing ordinary care is taken in localizing the injury, even without a skiagraph. When available, however, the *x*-ray should always be employed. Severe complications at or near the elbow may render the diagnosis difficult, but the *x*-ray picture, if properly taken, should settle the question.

Ohio State Medical Journal, Columbus.

October 15.

40 *Surgical Pathology of One Hundred Mammary Tumors. W. J. Stone, Toledo, Ohio.
41 The Mammary Gland: When and How Shall It Be Removed. B. R. M'Clellan, Xenia.
42 *Observations on Cancer of the Breast. G. W. Crile, Cleveland.
43 Quarantine. G. B. Spencer, Weston, Ohio.
44 Quarantine of Diphtheria and Scarlet Fever. J. G. Wilson, Colerain, Ohio.
45 Laboratory Diagnosis of Diphtheria and Tuberculosis. E. G. Horton, Columbus.
46 Roentgen Pictures in Orthopedic Surgery. H. O. Feiss, Cleveland.
47 Typhoid Fever, with Special Reference to Treatment. J. B. Woodworth, Delaware, Ohio.

40. Surgical Pathology of Mammary Tumors.—Stone discusses particularly the class of true neoplasms comprising 100 cases. Of this number 79 per cent. were carcinomata of some kind, 5 per cent. were sarcomata, 15 per cent. were adenofibromata (four of which showed evidence of beginning carcinoma) and one patient had tuberculosis of the breast. Therefore, the malignancy of the entire series is 88 per cent.

42. Analysis of Ninety-one Cases of Breast Cancer.—The mean age of Crile's patients was 49; the oldest, 71; the youngest, 24; 64 per cent. occurred in patients between the ages of 40 and 60. Fourteen per cent. had never married; 35 per cent. had not borne children. In but 11 per cent. was there a distinct history of lactation complications of importance. In 33 per cent. there was retraction of the nipple. In 17 per cent. there was a discharge from the nipple. In 78 cases it was found that 37 per cent. had a definite hereditary history of malignant tumors. In 94 per cent. the disease was first discovered as a tumor, 67 per cent. of which were painless. In 6 per cent. the first symptom was purely subjective. The mean known duration of the tumor was 11 months; the greatest, 24 years; the least, 2 days. The right breast was involved in 54 per cent.; the left in 46 per cent. Dividing the breast into a central portion and four quadrants, the frequency of location is as follows: Upper outer, central, upper inner, lower outer, lower inner. In the upper hemisphere the tumor appeared precisely four times as frequently as in the lower. There were 61 cases of scirrhus, 9 of adenocarcinoma, 7 of medullary and 3 of alveolar carcinoma, 2 cases each of cancer cyst and carcinoma simplex and 1 case each of perithelioma, sarcoma, and epithelioma, and 4 cases of cancer. For the purpose of clinical study, the cases have been tabulated in three groups: The favorable, which includes those in which the breast tissue only was involved; unfavorable, including those in which there was local or regional extension, but not clearly without operative chance; and palliative, which includes those patients operated on for relief of intolerable local conditions without hope of ultimate cure. Of the 91 cases, 87 were classified as favorable, unfavorable or palliative. Of this number, 53 were favorable, 25 unfavorable, and 9 palliative. This classification was made on the clinical evidence prior to the operation, entirely independent of the later pathologic findings. In this series there was no immediate operative mortality. Up to the present time there have been but two instances of local recurrence of the disease. Deaths from the disease were due to metastases in the thorax, in the liver, the kidneys, the long bones, peritoneal cavity, pelvic organs, vertebral column, the stomach, and opposite axilla. In several instances metastasis occurred after the three-year period. Of the patients in the palliative group none is living; of the unfavorable group 14 per cent. are living; of the favorable group 80 per cent. are living without evidence of the disease. The surgical technic employed was essentially that described by Halsted.

American Journal of Urology, New York.

October.

48 Causes Retarding the Recovery of Gonorrheal Urethritis. A. Ravogli, Cincinnati, Ohio.
49 Treatment of Chronic Urethritis in the Male. G. S. Peterkin.
50 *Lavage of the Renal Pelvis in the Treatment of Lithemia, Pyelitis and Certain Forms of Nephritis. F. M. Johnson, Boston, Mass.
51 *Anesthetic Impotence. F. W. Robbins, Detroit, Mich.
52 Choice of Technic in Prostatectomy. J. R. Wathen, Louisville, Ky.
53 Experience with the Methods of Determining Physiologic Kidney-Function for Operative Procedure. M. Krotoszyner and W. P. Willard, San Francisco, Cal.

50. Lavage of Renal Pelvis.—Johnson is of the opinion that lavage of the kidney is not alone justifiable, but is a procedure whose importance demands recognition from the entire medical profession. Patience, gentleness and experience are necessary attributes in the successful application of this procedure. Lithemia is more quickly eradicated when, in addition to the usal treatment, lavage of the kidney is employed. Pyelitis is a condition that should be recognized at any stage as a danger signal and promptly treated. If possible, the cause should be ascertained and removed. Very mild cases require only rest, and the administration of salol or hexamethylenamin (urotropin) for all others, catheterization and irrigation with boracic acid or silver salt solutions once or twice weekly are indicated. Pyelonephritis may be treated in the same manner with similar agents. Ureteritis will heal under lavage with at first soothing and later mildly stimulating fluids. Chronic parenchymatous nephritis can be alleviated, and in certain phases cured, by proper irrigation combined with appropriate diet and internal medicaments; other forms of nephritis also are amenable in a degree to lavage.

51. Anesthetic Impotence.—Robbins reports an unusual case of impotence occurring in an able-bodied man, aged 36. The patient denied any venereal disease or other serious ailment. He never had any impelling desire of a sexual nature. Never has he had any temptation to masturbation or to sexual intercourse. Never has he had any seminal emission, except at night, and these have occurred since puberty at intervals of three or four weeks, and occasionally three or four times in one week. The cause has been looked on as psychic, but this explanation scarcely harmonizes with the fact that never from puberty has the patient had a normal sexual impulse, never felt any desire or temptation to masturbation and never experienced any frictional excitation. The only basis on which Robbins explains this condition is that of lack of sensitiveness in the nerve terminals of the glans penis and frenum. Various attempts were made to render those parts more sensitive, but without effect. Hypnotic suggestion has been considered but not employed. The possibility of there being some defect of the nerve arrangement in the cord has been thought of, but Robbins believes the anesthetic theory most reasonable.

Wisconsin Medical Journal, Milwaukee.

October.

54 *Causes and Symptoms of Cardiac Insufficiency. J. D. Madison, Milwaukee.
55 Mucous Colitis. W. H. MacDonald, Lake Geneva.
56 *Placenta Previa. G. A. Hipke, Milwaukee.
57 Treatment of Scabies. L. Schiller, Milwaukee.

54 and 56.—See abstracts in THE JOURNAL, July 1, 1905, page 66.

Western Medical Review, Lincoln, Neb.

October.

58 Incomplete and Some Wrong Diagnoses. G. Haslam, Fremont.
59 Diagnosis of Cancer of the Stomach. H. L. Akin, Omaha.
60 Diagnosis of Gastric Ulcer. H. J. Lehnhoff, Lincoln.
61 Actinomycosis of the Lung. E. F. Ingals, Chicago.

Pennsylvania Medical Journal, Athens.

October.

62 Medical Education. A. Koenig, Pittsburg.
63 *The Mastoid Operation. E. H. Dench, New York.
64 *Mastoiditis—Its Importance in General Practice. S. Mac C. Smith, Philadelphia.

63 and 64. Id.—Oct. 21, 1905, page 1271.

Detroit Medical Journal.

October.

65 Sir William Read, Queen Anne's Quack Oculist. M. Frank, Chicago.
66 The Pharmacopeia of 1900. A. B. Lyons, Detroit.
67 Case of Endocarditis, Multiple Abscess of Spleen, Intestinal Stenosis, and Hemorrhagic Pancreatitis. J. Filstermann, Detroit.
68 Nail in Appendix. H. C. Wyman, Detroit.

Vermont Medical Monthly, Burlington.

October 25.

69 Idiopathic Epilepsy and Its Treatment. D. A. Shirres, Montreal.
70 Tumors Complicating Pregnancy. P. E. McSweeney, Burlington.
71 The Physician as an Educator. M. L. Chandler, Barre.

Medical Fortnightly, St. Louis.

October 25.

72 Postgraduate Study for American Physicians in European Capitals. C. H. Miller, Chicago.
73 Special Symptoms in Phthisis. A. M. Hall, Philadelphia.
74 Relation of Man to Nature (a Study Prompted by Testimonies of the Sepulchres). A. S. Ashmead, New York.

Kansas City Medical Index-Lancet.

October.

75 Case of Blastomycetic Dermatitis. H. M. Lyle, Kansas City.
76 Practical Points in Obstetric Practice. C. L. Hall, Kansas City.
77 Importance of Making a Thorough Examination of the Abdomen in All Acute Bowel Diseases. A. J. Simpson, Chillicothe, Mo.
78 Employees' Hospital Association vs. First Aid by Transportation Employees. B. F. Fortner, Vinita, I. T.

Medical Bulletin, Philadelphia.

October.

79 Curriculum of the Scientific Professional College. J. M. Anders, Philadelphia.
80 Febrile Type of Influenza as Frequently Seen in Young Children. W. C. Hollopeter, Philadelphia.
81 Injuries of the Liver and Their Treatment. M. P. Warmuth, Philadelphia.
82 Danger of Venereal Diseases and Their Prophylaxis. S. L. Gans, Philadelphia.

New Orleans Medical and Surgical Journal.

October.

83 Prostatism Without Prostatic Enlargement. G. F. Lydston, Chicago.
84 Treatment of Pneumonia. P. L. Bellenger, Waterproof, La.
85 Relation of Pleurisy to Tuberculosis. S. von Ruck, Asheville, N. C.
86 Use and Abuse of Glasses by Young People. O. Dowling, Shreveport, La.

Journal of Michigan State Medical Society, Detroit.

October.

87 Administrative Control of Tuberculosis. C. H. Johnson, Grand Rapids.
88 Treatment of Ophthalmia Neonatorum. E. Smith, Detroit.
89 Frequency of Ectopic Pregnancy. J. A. King, Manistee.
90 Thrombosis of Anterior Tibial Artery in Gunshot Wound. L. W. Gardner, Harbor Springs.
91 Dispensing by Physicians. H. B. Garner, Traverse City.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal.

November 4.

1 Oliver Wendell Holmes and the Contagiousness of Puerperal Fever. C. J. Cullingworth.
2 Solitary Non-parasitic Cysts of the Liver. J. Bland-Sutton.
3 Case of Actinomycosis of the Lungs. P. S. Hichens.
4 Epidemic of Influenza Occurring in the Midlothian and Peebles Asylum. J. P. Sturrock.
5 Epidemic Cerebrospinal Meningitis in Northern Nigeria. K. McGahey.
6 *Treatment of Puerperal Eclampsia. A. C. J. Wilson.
7 Plea for Evacuation of the Uterus in Unrelieved Cases of Puerperal Eclampsia. E. Brice.
8 Removal of Iron from the Interior of the Eye by Electromagnet. A. S. Percival.
9 *Preventing Acute Middle-Ear Suppuration from Becoming Chronic. W. Milligan, F. B. Waggett, T. G. Guston, A. A. Gray, and others.
10 Pathologic Condition Found in a Subject Who Had Been Deaf During Life. A. A. Gray.
11 *Treatment of Laryngeal Tuberculosis. W. J. Horne, S. H. Habershon, H. Barwell, C. St. Thomson, and others.
12 Symptoms, Diagnosis and Treatment of Chronic Suppuration in the Sphenoidal Sinus. H. Tilley.
13 Advantages of the Submucous Resection Operation Over All Other Methods for Strengthening Septal Deflections. H. Smurthwaite.
14 Comparative Value of Septal Fissure on Moure's Principle, and Submucous Resection in the Treatment of Septal Deflections. L. H. Pegler.
15 New Form of Forceps for Removal of the Anterior Wall of the Maxillary Antrum in the Radical Operation. W. S. Syme.

6. Puerperal Eclampsia.—Wilson's treatment of eclampsia consists in the early administration of chloroform, giving it slowly until the patient is fully under its influence. The patient is kept anesthetized until the labor is terminated, so that she shall be partially under its influence for some time afterward. Wilson has found this treatment to be very successful, and has never seen any recurrence of the convulsions after labor, provided a short time only has elapsed after the first convulsion before the administration of chloroform is commenced.

9. Prevention of Middle Ear Suppuration.—Milligan directs attention to the following points: 1. The desirability or otherwise of removal of nasopharyngeal adenoids, enlarged tonsils and various forms of nasal obstruction during the acute phases of septic middle-ear disease. 2. The exact value of routine bacteriologic examination of secretion removed from the tympanic cavity in acute septic inflammation of the middle-ear cleft. 3. The employment or otherwise of inflation of the middle-ear cleft during the early stages of acute otitis media. 4. The value and limitations of palliative treatment as opposed to the early drainage of the mastoid antrum in cases of septic otitis media. The treatment which, in his opinion, conduces to the rapid cure of acute septic otitis media is the following: 1. Early and free incision of the swollen and bulging membrana tympani. 2. Maintenance of free drainage through the incised membrane. 3. Avoidance of inflation during the acute phases of inflammation of the mucosa lining the middle-ear cleft, the more especially if exudation has already taken place, and in the presence of a small perforation of the membrane. 4. Early removal of nasal and nasopharyngeal pathologic entities tending either to impair the physiologic function of the Eustachian tube or to favor reinfection of existing exudation within the middle-ear cleft. 5. Early provision of drainage from the postero-external end of the middle-ear cleft in those cases in which drainage through the membrana tympani has proved insufficient.

11. Laryngeal Tuberculosis.—Horne pleads for the conservation of the larynx by rational therapeutic and surgical treatment. Postmortem examinations have shown: 1. That when the larynx is infected with tubercle the disease is already established in the lung. Primary tuberculosis of the larynx is a negligible quantity. 2. That the disease in the larynx progresses *pari passu* with that in the lungs; when the disease in the larynx presents ulceration that in the lungs has advanced to cavitation, and, *vice versa*, when that in the lungs has become arrested, then that in the larynx heals. 3. That when the disease in the lung is confined to the pure miliary form the larynx is not infected. 4. That infection of the larynx takes place by the sputum from the lungs. Therefore, improvement in the larynx following treatment will coincide with the improvement in the lung. Remedies directed toward rendering the lungs aseptic Horne believes to be of considerable value in preventing infection of the larynx. He also believes that sanatorium treatment, both directly and indirectly, is beneficial to laryngeal disease. It improves the pulmonary condition and reduces the frequency of laryngeal complications; it affords rest of voice and promotes healing of laryngeal lesions. Local applications, both palliative and remedial, should form part of the sanatorium treatment. In the more advanced cases, surgical methods may be necessary; an enlarged epiglottis may have to be reduced or removed. Edema of the larynx may be overcome by linear scarifying. Infiltrated and thickened parts may be treated with the galvanocautery or by longitudinal incisions with a sharp knife. Indolent ulcers may be curetted and treated with lactic acid; but lactic acid applied to an unbroken surface is of no avail and only causes distress. The surgical treatment of the disease has its limitations, but within those limitations Horne has seen benefit afforded. He does not, however, favor extreme surgical measures; at their best they are only mechanical means of overcoming physical difficulties and are seldom called for.

The Lancet, London.
November 4.

16 Morgagni to Virchow: An Epoch in the History of Medicine. J. L. Steven.
17 Ocular Tuberculosis in Children. J. H. Parsons.
18 *Subtotal Hysterectomy for Fibroids: After-histories of Sixty Cases. A. H. G. Doran.
19 *X-rays in the Treatment of Cancer. C. Williams.
20 Chronic Hyperplastic Tuberculosis of the Ascending Colon, with General Lymphatic Infection. A. Hall and G. S. Simpson.
21 *After-Treatment in Cases of Suprapubic Cystotomy; New Dressing for the Purpose. G. H. Colt.
22 Case of Intrathoracic Dermoid Cyst. H. B. Shaw and G. E. O. Williams.
23 Impaction of a Gallstone in the Large Intestine; Laparotomy; Recovery. F. V. Milward.
24 Malignant (?) Tumor of the Right Hypochondrium; Removal with Cure. F. W. Forbes-Ross.
25 Cerebrospinal Fever. P. L. Blaber.

18. Subtotal Hysterectomy for Fibroids.—This paper is mainly an analysis of a series of 60 cases of subtotal or supravaginal hysterectomy for fibroids in which the operations were performed by Doran; in every instance the patient had not reached the menopause and a sufficiently long after history was not obtainable. Each patient was traced for at least two years, and most of them were under observation for a much longer period of time. The main object of Doran's research was to determine: 1, How far the patients received lasting benefit from subtotal hysterectomy; 2, how far they are liable to certain discomforts, and 3, how far the preservation of more or less ovarian tissue may save them from those discomforts. There can be no doubt, says Doran, that so far as the removal of the tumor is concerned, the immediate results of this operation, after convalescence, are highly satisfactory, but uncomfortable or even distressing symptoms not rarely follow the operation; hence, the operator can not absolutely guarantee the patient against them. The surgeon must be careful how he urges an operation when the patient has a fibroid of small size which is not growing, which does not press on any important structure, and which is not the cause of hemorrhage. The presence of a small fibroid above the lower segment of the uterus does not justify any surgical procedure which may sterilize the patient, for pregnancy and labor often end normally in such cases. In many instances, however, the removal of the fibroid uterus is demanded, so that certain possible discomforts must be risked. Here the saving of the ovarian tissue has proved a direct benefit, and Doran's statistics confirm the value of that practice. A piece of the uterine mucosa should be saved whenever possible in order to anticipate and to prevent trouble from a premature menopause. In 28 cases of the series both ovaries were removed. In 3 cases the menopause was neither immediate nor complete; in 6 it was complete, with distinct but mild symptoms; in 10 it was complete, with severe symptoms. In 26 cases one ovary was saved. In 8 of these cases the catamenia was regular for a longer or a shorter period after operation; in 5 cases it was irregular, and in 13 cases the menopause was complete and immediate after operation. In 6 cases both ovaries were saved. In 3 cases the catamenia was regular after operation; in 2 cases it was soon suppressed, and in 1 case the menopause was complete and immediate after operation. In 5 of 16 young patients both ovaries were removed. The youngest patient was 30 years of age. She comes under the "severe menopause symptoms" class, but her flushings did not appear until eighteen months after the operation. Doran spared one or both ovaries in every patient under 30 years of age, with good results, and also saved ovarian tissue in several other relatively young women with benefit. He assumes that these patients would not have done so well had he sacrificed both ovaries. In 5 cases in which he was compelled to do so, bad symptoms appeared in 3. The majority of the 60 patients enjoyed good health when last heard from, two years or more after the operation. Doran concludes that the results obtained in these cases decidedly favor the conservative treatment of ovarian tissues, and that they tend to support the theory that it is necessary to spare some endometrium as well as some ovarian tissue.

19. X-Rays in Cancer.—Williams advises exposing cancer to the *x*-ray directly the diagnosis is made whether the case goes to operation or not. After operation, directly the scar is healed or even before that time, if it shows the slightest appearance of being sluggish, it should have immediate treatment whether in the scar or not; this requires constant observation by the medical attendant. A weekly examination is of the utmost importance to the patient. Even healthy wounds will heal the more readily under the stimulation of *x*-rays cautiously applied and in small doses, sufficient protection to the surrounding parts being all that is necessary. The *x*-rays used before operations, for even a few weeks, will tend to arrest further infection, and the glands, if enlarged with simple inflammation or only slightly affected, may disappear, with a certain amount of shrinkage of the original tumor.

21. After-Treatment of Cases of Suprapubic Cystotomy.—Colt says that there is great need of a suitable dressing for application to the patient during the period which elapses between the removal of the skin sutures and tube and the closing the urinary fistula. This time is at least one week; it is generally about three weeks and often longer still. The requirements are: 1, A dressing which shall be applied on the surface of the skin and which shall not enter the fistula at all —which shall not, therefore, tend to prevent it from closing or cause harm in any way; 2, a dressing which shall collect faithfully all the urine flowing by the fistula and allow it to drain away to a receptacle without wetting the patient's skin; 3, a dressing which shall in no way inconvenience the patient either by its bulk or by causing irritation of the skin or by its attachment to parts remote from the wound, as might very reasonably be necessary; 4, a dressing which shall only need occasional inspection and attention, just so much as may also be necessary for proper attention to the edges of the fistula, when, for instance, the granulations become exuberant; 5, a dressing which shall be transparent and so allow the wound to be seen easily, and, last of all, 6, a dressing which shall be easy of application, simple, unlikely to go wrong, and which shall also be cheap, aseptic, and easily cleaned and sterilized. Colt believes that he has met these requirements by the dressing which he has devised. This dressing consists of two parts, one being made of clear glass and the other of sheet rubber. The glass portion is a lightly blown hollow cylinder five-eighths of an inch in diameter and modified in that the top is partially closed and the bottom turned outwards as a flange. From the cylinder juts out a tube at right angles to its axis. The sheet rubber portion is a circular disc of the best, most flexible and elastic, untearable, black sheet rubber, three inches in diameter and one thirty-second of an inch thick. It has a central circular hole five-sixteenths of an inch in diameter and, therefore, can be easily sprung over the glass flange and arranged to lie in continuity with the concave portion of it. This is important for the proper application and stability of the apparatus. The joint so made is absolutely water tight. The two pieces when adjusted together and to a patient lying on his back are situated so that the cylinder is vertical and the rubber sheet horizontal. The total weight is 3 drams. A larger size is provided for use in the early stage, if necessary. The dimensions are a compromise of several, each of which has its own advantages and disadvantages. The rubber solution employed is made by dissolving pure rubber in naphtha. It is better put up in wide tins than in tubes. It is highly inflammable and the solvent quickly evaporates, both good reasons for keeping it securely sealed. The two parts of the dressing are sterilized separately, and the application is made as follows: The skin of the patient is shaved over an area of two inches all round the external opening of the fistula. It is then cleared of grease with a swab soaked in ether. The tin of rubber solution is opened and the surgeon sterilizes his hands. He dries them and both parts of the dressing thoroughly with a sterilized towel or with wool, fits the two parts of the dressing together correctly, and adapts the long rubber drainage tube to the short connecting arm. A small swab of absorbent wool is kept on the orifice of the fistula so that the skin around may be dried and kept perfectly dry until the dressing is applied. This swab should be renewed quickly if it becomes soaked, and it should be small enough to allow the rubber solution to be applied close up to the opening. The surgeon dips his finger in the rubber solution and thoroughly coats the patient's skin with a thin even layer right up to the

opening and round it for a distance of two inches, rubbing the solution well in. Care should be taken not to continue the rubbing if the solution begins to peel off. The under surface of the rubber disc is then covered all over with solution, but not within one-eighth of an inch of the glass flange or the spring of the rubber is weakened and thereby also the security of the water-tight joint. The rubber flange bends back of its own accord into three most convenient folds like a three-cornered hat. Then the surgeon waits until the two surfaces are nearly dry, as tested with the finger. That on the skin takes longer and it is immaterial how dry the surface of the rubber is. To refuse to wait is to court failure. As soon as the correct moment arrives the central swab is removed for good and the glass flange is placed around the opening of the fistula, and before any urine can escape the rubber disc is pressed evenly down all round. In making the adjustment it should be remembered that the drainage tube should either point toward the pubes with the rubber tube arranged for the side on which he lies, or it should be turned one-eighth of a circle or so to that side. There should be no attempt at rectification when once the application has been made. The excess of solution is rubbed off the skin round the disc with the finger. It comes off readily enough in little pellets while it is still damp with the solvent. The rubber tube is now bent round in a curve and fixed to the skin by a broad band midway between the anterior superior iliac spine and the orifice of the fistula, and in such a manner that the glass is kept in correct position partly by the elasticity of the drainage tube itself. The top of the glass is lightly covered with a piece of gauze or wool, or the hole is lightly filled, to prevent sepsis. The drainage tube is threaded through the cradle if one is being used and allowed to hang into the pail. It should be as short as can be contrived. The patient should be instructed to raise up any bedclothes he may have on the dressing when the nurse has to change them or attend to him, otherwise they will catch in it and it will be swept off. He should also be told not to strain to pass urine. When carefully applied the dressing is usually efficient for at least four days. If urine leaks under the rubber the dressing should be removed by peeling it off from the edge, another rubber substituted, and the whole reapplied. It is generally impossible to readjust it without reapplying it as a whole, though often a strip of plaster applied over the rubber will prevent leakage for one day longer.

The Practitioner, London.

October.

26 *Hygiene of the Mother Before the Birth of Her Child. J. W. Ballantyne.
27 *Points Regarding the Mother's Milk in the Early Weeks of Infant Life. M. Handfield-Jones.
28 *Artificial Feeding of Infants. E. Cautley.
29 *Use and Abuse of Condensed Milk and Patent Foods in Infant Feeding. G. F. Still.
30 *Municipal Feeding of Infants. G. F. McCleary.
31 *Consultations for Infants in France. L. Robinson.
32 *Infantile Mortality. A. Newsholme.
33 *Infantile Diarrhea. G. A. Sutherland.
34 Convulsions in Early Infancy. J. Thomson.
35 *Vaccination, Its Treatment, and Conditions of the Infant, which Preclude Its Being Done. M. Greenwood.
36 *Infantile Scurvy. W. S. Colman.
37 Infantile Atrophy. J. Barnet.
38 Disorders Associated with Primary Dentition. L. Guthrie.
39 Diseases of the Eye in Infants. H. W. Lyle.
40 Diseases of the Skin of the Young Child. T. C. Fox.
41 Pharmacopeia for Infants. O. F. F. Grünbaum.

26. Hygiene of Mother Before Parturition.—Ballantyne discusses the influence on the fetus of various conditions affecting the mother, dividing the antenatal life of the child into the germinal, the embryonic and the fetal. He advises examining the placenta chemically and histologically in every case of labor, and comparing the results obtained with clinical data in order to determine, if possible, the microscopic appearances characteristic of a placenta capable of transmitting power and those of one in which the transference of materials, nutritive, medicinal or poisonous, was difficult or impossible. It should be determined how pathologic changes in the decidua, amnion and chorion are related to the previous health of the mother and the present condition of the embryo. Again, a strict comparison ought to be instituted between the health of the mother and the state of her offspring in succeeding pregnancies. The maternal influence on the fetus is a complex matter, and until such time as definite information about the feto-maternal interchanges is forthcoming, the treatment of these conditions must be empirical. The hygiene of the pregnant woman is discussed in detail.

27. Mother's Milk.—Jones divides causes of non-lactation into four groups: 1, Women who can but refuse to nurse their infants; 2, women who have serious difficulty in nursing because of some anatomic defect; 3, women who have an abundant supply of milk during the first three or four weeks and then run dry; 4, women the chemical composition of whose milk does not agree with the digestive organs of the child. In some instances the milk is of low nutritive quality and deficient in fats; the infant's digestive organs may be at fault; the mother may be extremely nervous and excitable, or she may be ingesting something which produces a disturbance of the child's digestive system. If the infant can not be nursed by its own mother, Jones advises procuring the services of a wet nurse. Failing human milk, the physician must choose between modified milk, either of the cow or of some other animal, and artificial foods.

28. Artificial Feeding of Infants.—Nothing new is presented in this article. Cautley emphasizes the importance of weighing the child regularly for the purpose of regulating the diet so that there is a constant gain in weight. The time of feeding, the preparation of the food and the kind of food to be used are also considered. Cautley says that by the intelligent use of properly prepared milk and the plain cereal decoctions, it is quite easy to bring up infants successfully without having recourse to laboratory mixtures or to any of the death-dealing condensed milks and proprietary foods, although there are cases of disease in which they are valuable, when used with discrimination by those who thoroughly understand the art of infant feeding.

29. Use and Abuse of Condensed Milk and Patent Foods.—Still calls attention to the fact that the suitability of a particular food for prolonged use is not proved by the fact that it is taken well and produces no immediate ill-effects. The evil results of unsuitable food may not appear until the food has been continued several weeks or months. An objection to all prepared foods is their deficiency in fats. As for condensed milk and the other substitutes for fresh cow's milk, Still says that no manner of simple dilution of water can make the resulting mixture a suitable food for the prolonged use of infants; nevertheless, these foods may be of value for short periods under special conditions. The starch-containing patent foods are useful sometimes for infants over nine months of age, when starch is gradually to be introduced into the diet, but they must be given cautiously and with due regard to the digestive apparatus of the infant. The more the medical man knows of the many simple methods of adapting fresh milk to the needs of the infant, the less use he will find for condensed milk or patent foods.

30. Municipal Feeding of Infants.—McCleary outlines the methods pursued by various municipalities in England, especially in the borough of Battersea. These methods are based on the consultations in vogue in France.

31. Consultations for Infants.—Robinson describes these institutions which have done so much to reduce the infant mortality from gastrointestinal diseases in France. There are seven consultations for infants in Paris, and two in the immediate suburbs, exclusive of those connected with maternities. Each consultation must contain an apparatus for washing, cleaning and drying the empty bottles returned daily by the mothers. The milk is sterilized by the female caretaker, assisted by one helper; it is only delivered to infants according to the physician's prescription. The hygiene and feeding of the infant out-patients is under the supervision of the physician in charge of the consultation. Thanks to these institutions, more mothers feed their infants at the breast, the general infantile mortality is lowered and infantile diarrhea disappears. Stronger healthy children who resist every ailment better are seen because their digestive tube has not been deteriorated.

32. Infantile Mortality.—Newsholme's paper is a statistical study from the public health standpoint of facts derived from

the annual reports of the registrar general of births, deaths and marriages in England and Wales.

33. Infantile Diarrhea.—The treatment of the early stage of infantile diarrhea advised by Sutherland consists in the thorough cleansing of the intestinal tract as quickly as possible. He prefers castor oil administered in small repeated doses. It is given as follows:

℞.	Olei ricini.....m. x	6
	Tinct. rhei	
	Glycerini, āā.....m. v	3
	Tragacanthæ .....gr. 1/2	03
	Aq. menthæ piperitæ ad.....℥i	4

This may be given in teaspoonful doses every four hours for the first thirty-six hours, and then less frequently. It is usually well tolerated by infants, but if there is much gastric disturbance and vomiting, it may be necessary to wash out the stomach first. Instead of the castor oil one may use small doses of mercury. Gray powder, in one-quarter grain doses, or calomel in one-sixth grain doses, may be given every two hours, until six doses have been taken. When the acute symptoms are subsiding, and the motions are becoming less frequent, this sedative mixture may be given:

℞.	Sodii sulphocarbolatis	
	Bismuthi subnitratis, āā.....gr. ii	1
	Tragacanthæ .....gr. 1/2	03
	Glycerini .....m. x	6
	Aq. dest. ad.....℥i	4

One teaspoonful of this mixture is given every six hours. Associated symptoms are treated as they arise.

34. Convulsions in Early Infancy.—Thomson gives a general review of this subject.

35. Vaccination.—Greenwood says that in considering the conditions that contraindicate vaccination and render postponement advisable, the presence of smallpox locally, in a sporadic or epidemic form, is of the utmost importance. Where postponement might be desirable and even imperative in the absence of smallpox, when this disease is epidemic or has broken out in the house where the child resides, vaccination ought nearly always to be performed. When smallpox is not present and there is no immediate fear of the infection, the child should be vaccinated when its health is at its best. If the child has been exposed recently to an infectious disease, vaccination should be postponed until a reasonable time has elapsed from the convalescence of the last patient. When a child suffers from any form of wasting disease it is better not to urge the operation unduly. Care should be taken that the condition of the child's skin is healthy. With regard to postponement in general, it must not be forgotten that it is an evil; anything that can be done to avoid the necessity of postponement is, therefore, important. One method is to offer vaccination as soon after the first month as possible. The operation must be carefully performed under aseptic precautions.

36. Infantile Scurvy.—Colman details the clinical history of this affection, laying particular stress on the morbid anatomy and frequency of occurrence of the bone lesions.

Intercolonial Medical Journal of Australasia, Melbourne.

September.

42 State Medicine and Medical Ethics. G. A. Syme.
43 Abdominal Manifestations of Syphilis. F. D. Bird.
44 Etiology and Treatment of Hernia in Adults. R. H. Russell.
45 *Simplified Operation for Hernia in Children. E. K. Herring.

45. Simplified Operation for Hernia in Children.—Herring describes his method, a simple and rapid one, as follows: "Cut down on and into the sac in the usual position over the rings, and having dealt with the contents, pull the sac down, i. e., out from the abdomen, sufficiently to insure the subsequent retraction. Extend the incision in the sac right up to the ring margin, and turn this upper portion of the sac inside out through the incision, exposing the peritoneal surface. Then, with a knife or pair of sharpened scissors, cut the peritoneum (only) transversely right across. The proximal cut edge will retract within the abdomen, so catch it here and there as you cut with catch forceps. Thus the sac is severed from side to side, and the proximal opening is held by forceps. Arrange these forceps to draw the edge into a line, and whip it together by a catgut suture. Take off the forceps and the sutured opening will retract within the abdomen. Close the wound with a subcuticular or other stitch and seal it." The operation is done in a few minutes, instead of the ordinary three-quarters of an hour. Nothing further is absolutely necessary. When there is a large lax abdominal ring, or when the little patient has a cough, it may be advisable to put one or two stitches through the pillars as a temporary support. The contents of the inguinal canal are practically not disturbed. The sac is left in the canal to shrivel up; the cord has not been touched nor pinched; the testicle has not been dragged out and exposed; no vessels have been cut, so no ligatures are left behind, and the chances of sepsis are very slight.

Semaine Médicale, Paris.

46 (XXV, No. 44.) *De l'influence de l'alcoolisme sur la glande thyroïde. F. De Quervain.
47 Report of Fifteenth Italian Congress of Internal Medicine, Genoa, October 24-29.

46. Influence of Alcohol on Thyroid Gland.—De Quervain has previously published a study of acute, non-suppurative thyroiditis and of the participation of the thyroid gland in acute infections and intoxications. In this article he studies the influence of alcoholic intoxication. The thyroid gland reacts in about the same way to microbian intoxications as it does to chemical poisons. The colloid substance becomes more or less granulous and filled with vacuoles, while it diminishes in amount. It ceases to stain with eosin and takes hematoxylin, while there is intense epithelial desquamation and hyperemia. In examining the cadavers of pneumonia subjects he noticed that those with a history of alcohol addiction showed these changes to a marked degree, while they were absent in the non-alcoholic cases. The thyroid must be added to the list of glandular organs susceptible to injury from alcohol. It might be interesting to study the indications of lacking or defective thyroid functioning in cases of chronic alcoholism. The knowledge of the changes induced in the thyroid gland by alcohol throws light on the development of spontaneous myxedema or "hypothyroidism" in the children of alcoholics. Such modifications as those described, if they occur in the thyroid of the fetus, might well explain its defective functioning later.

Beiträge zur klin. Chirurgie, Tübingen.

Last indexed page 1762.

48 (XLV, No. 3.) *Erfahrungen bei der operativen Behandlung des kompletten inneren Darmverschlusses (ileus). O. Simon.
49 Ueber die isolierte Ruptur der Symphysis ossium pubis. W. Cohn.
50 Luxatio femoris centralis. W. Simon.
51 Zur Entstehung von Pankreas Cysten durch Trauma. Zimmermann.
52 Zur Anatomie und Klinik der Fussgelenks Tuberkulose (of ankle). R. Stich.
53 *Zur Dauerheilung des Brustkrebses (mammary cancer). H. Schröder.
54 Ueber Bruchsack Divertikel (in hernial sac). E. Hagenbach.
55 Ueber umschriebene Knochenverdichtungen im Bereich der Substantia spongiosa im Röntgenbilde (localized thickening of bone). A. Stieda.
56 Ueber den Albers'schen Beckenfleck im Röntgenbilde ("spot in pelvis"). Id.
57 Struma intratrachealis. T. Grünewald.
58 *Die Darstellung der Trachea im Röntgenbild, besonders bei Struma. O. Pfister.
59 (XLVI, No. 1.) *Erfahrungen über Spinal-Analgesie. C. Pfeiffer.
60 Zur operativen Therapie der seitlichen Kniegelenks-Verkrümmungen (lateral curvature of knee). A. Whitek.
61 Ueber Skoliosen bei Halsrippen (cervical ribs). F. Meyer-owitz.
62 Ueber Divertikel-Bildung bei Appendicitis. M. v. Brunn.
63 Zur Kasuistik der Frühlingsverletzungen des Beckens (impalement injuries of pelvis). K. Flick.
64 Erfahrungen in der Appendicitis-Frage am städtischen Krankenhause zu Nürnberg (experiences at Nuremberg City Hospital). W. Hagen.
65 Die Heilungs-Resultate der Unterschenkelbrüche (fractures of leg). F. Bauer.
66 Totale Onerrisa des Pankreas durch Naht geheilt (transverse laceration cured by suture). C. Garré.

48. Operative Treatment of Complete Occlusion of the Intestine.—Simon reviews the cases treated at Czerny's clinic between 1890 and 1903, separating them into eight classes according to the cause, etc., of the occlusion. He proclaims as the lessons learned from this extensive experience that all cases of internal occlusion in which strangulation is probable, and also of volvulus and invagination, should be treated operatively, but that in case of gangrene, the intestine should merely be drawn out and opened instead of attempting more

radical measures. In complete occlusion, especially with preceding chronic obstipation, internal medication should be given a trial, but the response must be obtained in the first or, at the most, in the second twenty-four hours, not to allow the favorable moment for intervention to slip past. Every operation for complete intestinal occlusion should be preceded by lavage of the stomach. In case of much meteorism, the intestine must be emptied at the time of the operation. In case of existing peritonitis it is always wise, Simon states, to leave a fistula into the intestine, notwithstanding the restoration of the permeability of the bowels.

53. **Permanent Cures of Mammary Cancer.**—Schröder's article is devoted to the experiences with mammary cancer at Müller's clinic at Rostock, 1875-1901. The total number of patients treated by a complete operation was 347. Out of this number 45 are still alive and well, one after twenty-seven and a half years, and 14 after from ten to fifteen years. In 15 of the 182 patients who succumbed to metastases there was no local recurrence of the neoplasm. In a majority of cases in which a second operation was required the recurrence was in the cicatricial tissue. In 5 cases the recurrence appeared between the fourth and fifth year after the operation; in 4 between the fifth and sixth year, and in 6 between the sixth and eighth; in one after eleven and in another after thirteen years. The fact that in 51 out of 83 cases of recurrence the latter occurred in cicatricial tissue, suggests that the operation spared too much skin. Cancer germs must have been left in the skin, and this should have been excised more freely. Some of the patients had showed the lump to their physician and he had advised waiting "to see if it got any larger." There will always be a small proportion of cases in which the growth is still apparently in its incipiency, but yet the patients succumb to speedy metastasis in lungs or pleura. The lymph vessels in the mammary gland communicate with the mediastinal glands, which explains this group of cases. Fortunately, this communication is less extensive than that with the axillary glands.

58. **Trachea in Roentgen Picture.**—Füster proclaims that the trachea can be inspected with great precision in the Roentgen picture even in case of large goiters. It enables the part of the goiter encroaching on the trachea to be determined, and gives a number of other hints valuable for surgical intervention.

59. **Spinal Analgesia.**—Pfeiffer's communication issues from von Hacker's clinic at Graz, and describes 235 cases of operations performed under spinal analgesia. No by-effects were observed in 75 per cent. of the cases and in the others, with a single exception, they were slight and brief. In only 10 cases was there absolutely no analgesia after the injection. General anesthesia after a preliminary spinal analgesia requires much less of the anesthetic and seems much less serious than under other conditions.

Centralblatt f. d. Grenzgebiete d. Med. u. Chir., Jena.

Last indexed page 429.

67 (VIII, No. 10.) *Der subphrenische Abscess. F. Perutz. Critical review of literature, 1894-1904. (Commenced in No. 4.)

68 (No. 13.) *Ueber den klinischen Wert der Kryoskopie von Blut und Harn (value of cryoscopy). H. Ziesche. Critical review. (Commenced in No. 5.)

69 (No. 16.) *Das Divertikulum ileï. A. Dreifuss. Critical review of the literature. (Commenced in No. 11.)

70 *Hyperemesis gravidarum. R. Poliak. Critical review of the literature, 1895-1904. (Commenced in No. 9.)

71 (No. 17.) *Die akute Magenerweiterung (dilatation of stomach). Neck. Critical review of the literature. (Commenced in No. 14.)

72 Zur Kenntnis der Meningocele spuria. Bauerthal. One case. Young man.

67. **Subphrenic Abscess.**—Perutz reviews 158 articles in his text and adds several more to the list in correcting the proof. He classifies the cases as they originate: In the stomach, 67 cases; duodenum, 3; appendix, 55; liver and biliary passages, 17; echinococcus cyst, 5; intestine, 7; pancreas, 4; spleen, 4; perinephritic structures, 7; ribs, 1; thorax, 8; female genitals, 6; of traumatic origin, 8; metastatic, 5, and unknown and various causes, 11—a total of 208 cases, with 6 added in the proof, bringing the total number to 214. Ulcerative processes in the stomach and appendicitis are the principal causes of subphrenic abscess formation. The symptoms may be acute or more insidiously chronic. The patients may grow thin and appear very ill without any local symptoms to attract attention to the site of the lesion. As a rule, however, some of the organs in the vicinity are pushed up when fluid accumulates on the lower aspect of the diaphragm. The affected side protrudes more than the other, and there may be fever and extreme difficulty in breathing. The affected side may lag in making the respiratory excursions. The area of dullness over the tumor corresponds to the convex outline of the diaphragm, and the limits of the lungs above can be differentiated in some cases, but not in all, as the excursions of the pleura are generally hindered by extension of the inflammation or by exudation. If the abscess contains gas, then the picture is that described by von Leyden as subphrenic pyopneumothorax. The remarkably extensive lymphatic communication between the pleura and the subdiaphragmatic space renders the participation of the pleura in the inflammation almost inevitable. It is favored by the movements of the diaphragm. The pleural exudate is generally less virulent than the contents of the abscess. Grüneisen found the pleura involved in 40 out of 60 cases of subphrenic abscess. In 3 instances the subphrenic abscess was the result of a bullet wound. In another it developed after a strain from lifting a weight, and in some others after contusions. In these cases an extravasation had probably become infected. The abscess was of typhoid origin in a few individuals and it followed furunculosis in others. The possibility of a subphrenic abscess should be borne in mind when confronted with furuncles, especially when on the face. In 2 cases the abscess followed tuberculous peritonitis, and in a third the pus contained pneumococci. In a few other puzzling cases pneumonia or pleuritis was diagnosed at first, but the atypical course, the high fever, and the general ill feeling, supplemented by the puncture findings, cleared up the diagnosis. In one case in this group the patient succumbed to thrombophlebitis of the splenic vein. The others recovered, one man requiring counteropenings and several months in bed before he was finally cured.

68. **Clinical Value of Cryoscopy.**—Ziesche concludes his long analysis of what has been published on the study of the freezing point of blood and urine with the remark that the extravagant claims made for this new diagnostic measure at first have not been substantiated, but that it is valuable in supplementing other diagnostic measures, and states that it will well repay further study. Defective technic has been responsible for some of the conflicting reports which have been published. He reviews the works on osmosis and on the determination of the freezing point which preceded Koranyi's application of cryoscopy to the clinic. Very little has been done in pediatrics with cryoscopy. It seems to have been demonstrated that in liver affections the freezing point of the blood is higher, while in diabetes it is lower. This may be due to irritation of the kidney or to weakness of the heart, or to accumulation of acetone in the blood. Koranyi regards the acetone as similarly responsible in case of inanition. In diabetes insipidus the freezing point of the urine is very high; Strauss has observed a patient with an output of 6 liters and a freezing point of 0.11 C. The smallest figure yet recorded in man for the freezing point of the blood was found by Dienst in a case of eclampsia, namely, 0.40 C.

69. **Meckel's Diverticulum.**—Dreifuss has sifted 398 articles and discusses the subject from every point of view as presented in the literature. He summarizes his conclusions in the statements that an open diverticulum should receive the most radical treatment at the earliest possible moment. In secondary prolapse of the intestines Barth's technic is preferable, as it provides for all eventualities. Enterostomata should be extirpated, and the diverticulum in a hernial sac should be removed as completely as possible, as under all circumstances. Inflammations in the diverticulum and ileus—whatever their origin—must be regarded as surgical affections and preferably treated according to Hilgenreiner's technic. An operation was performed in 111 of 192 cases of occlusion of the intestines by a Meckel diverticulum. In 32 cases the patients were saved, but in the other 79 the fatal termination could not be arrested. Hilgenreiner thinks that these figures

will grow better when it is generally accepted that every case of ileus should be regarded from the first as a surgical affection—not that the surgeon has to operate in every case, but that expectant treatment should be with the knife in hand.

70. **Hyperemesis Gravidarum.**—Pollak recapitulates the views and methods of various authors as set forth in 242 articles published between 1895 and 1904. The prognosis is given as more favorable in these later works. Many writers preach against the use of medicines, claiming that when this method of treatment is successful it is merely from suggestion. Olshausen gives 4 gm. of potassium bromid in rectal enemata during the day, keeping the patient in bed. Kehrer gives 1 gm. of sodium bromid three times a day and 15 drops of nux vomica once, with a solution of cocain. Antonschwitsch gives salts in large doses, ascribing the trouble to a deficiency in salts. Neustube gives 10 drops of a 50 per cent. solution of cocain, repeating the dose in an hour if the desired result is not attained, and once again, with half the dose, three times the next day. He inserts a tampon with a 2 per cent. cocain salve in the vagina at the same time. Pozzi has also reported success from subcutaneous injection of cocain, Bauer with cocain internally and morphin subcutaneously. Opium is recommended only by Priest and Tuszkai in the literature of the last ten years. The latter gives it in large doses. Oelschlager reports that he has never had a failure in fifty years' experience with sodium bicarbonate combined with tincture of strychnin. Dirmoser gives 0.05 gm. calomel every hour until the bowels move and then morphin. Dow prescribes a teaspoonful of a 1 per cent. solution of carbolic acid by the mouth after failure of other measures. Some writers reject medication, as its almost certain failure destroys the patient's confidence in her physician, and time is wasted. Geoffroy noted that the vomiting ceased after prolonged palpation and consequently proposes massage as a remedy. He ascribes the trouble to reflex contraction of the pylorus, duodenum and junction of ileum and colon, and consequently advises massaging these parts. His suggestion does not seem to have been adopted by others. Several writers have reported cessation of the vomiting after correction of some displacement of the genitals. A number of authors recommend treatment as for hysteria, especially with authoritative suggestion. Frank wonders that more use is not made of hypnosis by gynecologists. A number of instances have been recorded in which hyperemesis gravidarum was noted in the previous history of patients with polyneuritis. Eulenberg has observed 3 such cases.

71. **Acute Dilatation of the Stomach.**—Neck has collected 44 cases with postmortem findings published in the literature. The stomach generally reached to the pubic bone and in some instances the floor of the pelvis. The signs of the distension of the organ came on suddenly usually, without any previous history of gastric disturbances. In 28 of the cases the dilatation occurred after an operation under chloroform. In 17 the operation had been on the abdomen, with a possibility that the stomach might have been pulled or injured in some way, directly or indirectly, but in the other cases the operation had been resection of the knee or elbow, amputation at the hip joint, or operations on the foot or knee. It is more than probable that the stomach was injuriously affected by the chloroform, entailing paralysis and stretching of the walls. In a case recently observed a man took chloroform several times without harm, but sudden dilatation of the stomach followed two hours after a single dose of 0.1 gm. of veronal. Neck cites this instance to illustrate the idiosyncrasy of the stomach against some drug which is probably the cause of the sudden acute dilatation of the stomach in certain cases. In the other cases inordinate or inappropriate eating or drinking had preceded the dilatation—four bottles of champagne in one case, two bottles of lemonade in another. Acute dilatation has also been observed after contusions of the abdomen or other trauma. Vomiting generally occurs, but not invariably, and it may cease abruptly. There may be considerable pain at various points. Certain symptoms suggest the action of toxins. In all but 2 of the cases the temperature remained normal throughout. Out of the total of 64 cases which he has collected only 17 terminated in recovery. Differentiation from ileus and peritonitis is very difficult, as a rule. In treatment, the use of the stomach pump three times a day best answers the indications; it must be continued until the stomach has returned to normal size and the signs of functional disturbance have subsided. It is a good plan, Neck says, to evacuate the stomach with the patient's pelvis raised, as this facilitates the emptying of the organ. Interference with the bowel functions by the distended stomach can be counteracted by having the patient lie face downward or change to the knee-elbow position for fifteen minutes every two hours, Kelling's patient obtained relief by lying on the left side with the legs drawn up. Borchardt had an unfavorable experience with the prone position, and thinks that it is liable to interfere still further with the motions of the diaphragm, and possibly to arrest the heart action. If the prone position is ordered, the stomach must be systematically evacuated from time to time. Surgical intervention is the last resort, but a gastroenterectomy might be tried. It has been done in a few instances, but too late to benefit the patient. The cause of the acute dilatation may be manifold, but experience has shown that in addition to and in consequence of the dilatation there may be compression and kinking of the duodenum which in turn increase the dilatation. The compression of the duodenum generally occurs just below the superior mesenteric artery. Sometimes the duodenum is kinked by traction or torsion from the enlarged stomach. The dilatation of the stomach is the primary lesion.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed page 284.

73 (LXXXIV, Nos. 5-6.) Balance of Acids and Alkalies in Animal Fluids.—Ueber Bestimmung der Bilanz von Säuren und Alkalien in tierischen Flüssigkeiten. F. Moritz. (Titrimetric Analysis of Ash in Gastric Juice and Urine.)

74 *Pathologie der Arteria basilaris. Saathoff (Kiel).

75 *Klinische Beobachtungen über Blutdruck, pulsatorische Druckzunahme (Pulsdruck), sowie ihre Beziehungen zur Puls Kurve. B. Fellner.

76 *Embolie der Lungen-Arterie. C. Hart.

77 Ein Spirochaeten Befund bei schwerer Anämie und carcinomatöser Lymphangitis. O. Moritz. One case.

78 Zur Kenntnis der Influenza und Influenza-Bazillen. G. Jochmann.

79 *Zur Symptomatologie der Milz- und Nieren-Infarkte (of spleen and kidney). G. Riebold.

80 *Zur Pathologie des Blutdrucks (blood pressure). Külbs (Kiel).

81 Action of Fluorescent Substances on Fungi.—Wirkung der fluorescierenden Stoffe auf Spalt- und Fadenpilze. A. Jodlbauer and H. v. Tappeiner.

82 *Is Transfused Homogeneous Blood Preserved?—Bleibt artgleiches Blut bei der Transfusion erhalten? W. Schultz.

83 Ueber Isohämolysine und Hemagglutinine beim Kaninchen (in rabbit). Id.

84 Atypische Leukämie mit Osteosklerose. C. Nauwerck and F. Moritz. One case.

85 *Influence of Changes in Circulation on Composition of Urine. Einfluss von Kreislaufsänderungen auf die Urinzusammensetzung. A. Loeb.

86 *Laparotomie bei Peritoneal-Tuberkulose. Göschel.

74. **Pathologic Conditions of the Basilar Artery.**—Saathof's attention was called to the mechanism of aneurism of the basilar artery by the case of a man carrying a hod of bricks on a scaffold, who stepped on the loose end of a plank and fell through to his thigh. This kind of trauma caused an impact of the skull on the neck and resulted in the rupture of the sound basilar artery. In 3 other cases thrombosis in the basilar artery was evidently a syphilitic process. Saathof is convinced that the peculiar location of the basilar artery exposes it to great injury from an accident such as the one just described, the impact of the weight above forcing the artery against the rough bone below. Examination of 100 skulls showed that the bed of the artery was smooth in only 43, while all the others exhibited more or less numerous jagged projections. Injury of this kind might pass unperceived, but would leave a place of lesser resistance on which a syphilitic process would locate by preference. He has found in the literature reports of 10 cases in which the basilar artery was the sole seat of syphilitic gummatous arteritis. In another group, which he also illustrates with examples, the syphilitic process had involved the neighboring arteries, while a third group includes those in which the adjacent membranes as well as the arteries were involved. This causal chain of trauma, thrombosis, syphilis and aneurism explains also the hitherto puzzling fact that the region of the chiasma seems to be a favorite site for syphilitic lesions. The pecu-

liarly sheltered position of this part always rendered its predilection for syphilitic lesions inexplicable. But if we ascribe causal importance to trauma affecting the basilar artery, then the propagation of the process to the region of the chiasma is not improbable. In a large number of the cases on record trauma is expressly stated.

75. **Study of Blood Pressure and Pulse Curve.**—Fellner's work issues from Nothnagel's clinic. The conclusions state that the measurement of the blood pressure, according to the Masing-Sahli-Strasburger technic, denotes great progress in this line, especially in the determination of the diastolic with the systolic pressure, and also the extent of the pulsatory increase in pressure (pulse pressure). This enables us to determine the condition of the circulation at any time, the degree of compensation, the diagnosis of various disturbances in the circulation and allows exact control of many therapeutic measures. It gives extremely characteristic and important diagnostic findings in certain affections, especially in case of aortic stenosis or insufficiency, and of nephritis. The pulse pressure is, further, the only means of determining accurately the degree in which the pulse is gaining or losing. This can not be determined by the ordinary sphygmogram, but can be learned with precision from Sahli's "absolute sphygmogram." The viscosity of the blood has considerable influence on the origin and shape of the pulse curve. The Riva-Rocci sphygmomanometer is more reliable than any other, Gaertner's tonometer giving only approximate findings. By the Strasburger technic, the Riva-Rocci cuff is slipped on the forearm as usual and connected with the manometer. The maximal pressure is estimated by the height of the mercury column when the pulse vanishes peripherally from the point of compression. The diastolic (minimal) pressure is estimated at the moment when the previous maximal radial pulse commences to grow smaller with increasing compression. Sahli's technic consists in applying Jaquet's sphygmograph, instead of the fingers, to the radial artery, and then compressing the brachial with the cuff. As the sphygmogram record grows smaller, this corresponds to the diastolic pressure. When the systolic pressure is reached in the cuff, the index marks a horizontal line without elevations. The findings by both these technics are practically identical. The Strasburger shows the minimal pressure = heart diastolic pressure; maximal pressure = heart-systolic pressure. The pulse pressure is the difference between the maximal and the minimal pressure. The blood pressure quotient = the quotient obtained by dividing the pulse pressure by the maximal pressure. Sahli's work on methods of clinical investigation was reviewed on page 1673. Some of his communications have been summarized in THE JOURNAL, for example on page 1819 of volume xliv, and page 2002 of volume xliii. Fellner does not regard the blood pressure quotient as a reliable index of conditions, as various factors combine to influence it; but Sahli's absolute sphygmogram, he thinks, can be relied on. The ordinary sphygmogram represents a curve with an unknown base. We have no means of knowing with the ordinary sphygmogram the base line representing the distance from zero. A pulse with a minimum of 60 mm. and a maximum of 90 mm. would show exactly the same findings as another with a minimum of 160 mm. and a maximum of 190 mm. Sahli draws on "millimeter paper" the time of one pulse phase (0.2", according to Jaquet's sphygmograph 10 mm.). The height of the minimal pressure is then marked on the zero line (the minimal pressure is determined by the Riva-Rocci, for instance 1 mm. mercury = 1 mm. on the vertical line), corresponding to the height of the pulse curve, that is, the maximal pressure is marked at the point to correspond to the time distance. In an absolute sphygmogram thus drawn, the height corresponds in fact to the pulse pressure. The future of the sphygmogram is for the exact study of rhythm, frequency and regularity of the pulse and its disturbances. In solving other questions, however, the study of the venous pulse and of the cardiogram should supplement sphygmography and sphygmomanometry, with also plethysmographic findings and analysis of the blood. The entire arsenal of hemodynamics may be called on before the problem is solved in certain cases. In conclusion he cites von Frey to the effect that if the study of the pulse is to be more than a mere pastime, it should be applied to several parts at once, investigating the pulse in various regions, if possible, with different apparatus and simultaneously.

76. **Embolism of Pulmonary Artery.**—Hart describes 2 cases in which the main trunk of the pulmonary artery had evidently been completely obstructed by an embolus. The far advanced organization testified to the long existence of the lesion, but weeks elapsed after the embolism before the patients succumbed.

79. **Infarcts in Spleen and Kidneys.**—Riebold's article is based on 2 cases. The patients were young women, and the first sign of trouble was a sudden excruciating pain in the region of the organ affected, strictly localized, not radiating, persisting for some time unmodified without essential remissions, but gradually subsiding in the course of a few days. An infarct in the spleen or kidney may occur with severe symptoms suggesting ileus or peritonitis, probably of reflex origin (collapse, vomiting, retention of feces and urine). These symptoms may be accompanied by slight temperature and possibly also by moderate leucocytosis. Head's zones of hyperalgesia on the skin are sometimes noted, and their location on the right or left side may sometimes have diagnostic importance to determine whether the left kidney or the spleen is affected. Enlargement of the spleen and friction in the splenic region point to this organ. In case of infarct in the kidney, oliguria is sometimes observed or anuria, with hematuria and albuminuria, and yet it is possible for the urine to be entirely normal even in case of very extensive and bilateral kidney infarcts. In some cases the infarcts occur with no symptoms to suggest their presence. In one of the cases described an embolus was found in the basilar artery, and was the cause of the acute bulbar paralysis that had been observed, but a small isolated hemorrhage in the thalamus optici had failed to cause facial paralysis.

80. **Pathology of the Blood Pressure.**—Külbs describes a dozen cases in which he observed a temporary increase in the blood pressure in persons addicted to tobacco or alcohol. It was accompanied by subjective sensations, with a very tense, regular pulse and acute dilatation of the heart. The patients complained of a pain or sense of oppression, as if a great weight were lying on their chest. Conditions were restored approximately to normal by rest in bed, baths and restriction of intake of fluids.

82. **Is Homogeneous Blood Retained on Transfusion?**—Schultz relates experiments which he thinks demonstrate that carefully defibrinated rabbit blood transfused into other rabbits is preserved for the receiving organism for the most part.

85. **Behavior of Electrolytes in Urine During Changes in Circulation of Blood Through the Kidneys.**—Loeb's conclusions from the extensive clinical research reported are to the effect that in healthy individuals the elimination of urine increases when they change from the reclining to the upright position, and the relative elimination of salt increases also. In individuals with disturbances in the circulation the changes are just the reverse. Those with orthostatic albuminuria show modifications in the urine which indicate that the circulation through the kidneys is not so good when standing. Nitroglycerin has an unfavorable action on the circulation through the kidneys in case of nephritis. In the changes indicated in the urine by upright position or by nitroglycerin, salt behaves differently from the other solid constituents of the urine, as the changes in concentration occur in an opposite sense to those of the other solid constituents.

86. **Laparatomy in Tuberculous Peritonitis.**—Göschel reports that one of the 3 patients whom he reported as cured (see THE JOURNAL, page 1035), later returned with progressing lesions. After six years of apparent cure the tuberculous peritonitis resumed a progressive course.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 328.

87 (LXXVIII, Nos. 1-3.) Zwei Fälle von Struma basedowificata lingualis. K. Meixner.

88 Ueber Laminektomie bei spondylitischer Lähmungen (paralysen). C. Sultan.

89 Die Lagerung des Nervus radialis bei Oberarmbrüchen der Diaphyse (position of nerve in case of fracture of upper arm. J. Pessler.

90 **Zur Frage der operativen Behandlung der intrakapsulären Schenkelhals-Frakturen** (of neck of femur). H. Ito and S. Axnberg.

91 **Die Medullar-Anesthesie mittelst Cocain-Suprarenin.** L. Kurzwelly (Braun's service, Leipzic).

92 **Zwei Fälle von Volvulus des Meckelschen Divertikels.** Fehre.

93 *Zur Frage der Contagiosität des Erysipels. Franke.

94 *Experimentelle Untersuchungen über die Einwirkung der Roentgen-Strahlen auf das Knochenmark, nebst einigen Bemerkungen über die Roentgen-Therapie der Leukämie und Pseudo-Leukämie und des Sarcoma. H. Heineke.

95 **Surgery of Stomach.—Modifikation der Kocher'schen Magen-Resektion.** F. Schultze.

96 **Ueber lokalen Tetanus beim Menschen.** Axhausen.

97 **Experimentelle Studie zur Colostomie-Methode nach v. Mosetig-Moorhof.** M. Silbermark and P. Dömény.

98 **Ein neuer Rollen-Apparat zur Extensions-Behandlung.** Linnarts.

99 *Operation on Kidney for Scarlatinal Anuria. Recovery.—Decapsulation und Stichelung der Niere wegen 4tägiger Anurie nach Scharlach. Herstellung der Diurese, Genesung. M. Schmidt.

100 **Zur Frage der Stroma-Metastasen.** C. Goebel.

93. Contagiousness of Erysipelas.—Franke's research has demonstrated, he thinks, that the streptococcus enters through some solution of continuity in the skin or mucosa, possibly so minute as to be imperceptible. The coccus penetrates into the lymphatics beneath and sets up erysipelas or an abscess, according to the depth of its penetration or its virulence. It never comes to the surface in the vesicles or cast off epidermis, any more than in case of a phlegmon in a tendon sheath. The erysipelas patient is no more dangerous, he states, as a source of contagion than a patient with a phlegmon of this kind, so long as he does not scratch the patches. If they are scratched the lurking places of the streptococcus are liable to be disturbed and the exuding fluid may contain virulent streptococci. An erysipelas patient should have the patch covered with a protecting dressing the same as any abscess or phlegmon, and when this can be done effectually the patient, Frankel says, is no more dangerous to those around him than any patient with an infectious process. If the patch is on the face or where it can not be effectually protected, the patient had better be isolated until the symptoms of inflammation have subsided. When these are gone isolation can be suspended, as there is no danger of contagion from the scaling.

94. Action of Roentgen Rays in Leukemia.—Heineke expatiates on the remarkable harmony between clinical experience and the results of experimental research in respect to the action of the Roentgen rays on the cells of the blood-forming organs. After exposure of guinea-pigs for several hours to the rays, the white cells of the bone marrow, with but few exceptions, are destroyed. This destruction of the white marrow cells commences at nearly the third hour, reaches its height at about the eleventh hour, and the process is terminated by the end of five or six days. The lymphocytes succumb first and the ungranulated myelocytes, then the eosinophiles and the mast and giant cells, while the neutrophile polymorphous polynuclear cells remain intact longest. The injured bone marrow is capable of regeneration, which commences at about the second week and is complete by the third or fourth. During regeneration the ungranulated and the giant cells appear first, while the eosinophiles and the mast cells are the slowest to appear. These findings were obtained in 150 guinea-pigs after a single exposure of several hours' duration. They harmonize perfectly with what has been observed in the clinic, but the lymphoid tissue in man does not react so promptly and decidedly as in animals. The glandular tumors of pseudo-leukemia generally respond to Roentgen exposures with prompt retrogression, though some cases prove refractory. The soft, rapidly growing glandular tumors, abounding in lymphocytes, respond best to the exposures, as he illustrates by the report of a case personally observed. The possible rapid regeneration of the tumors when the exposures are suspended is one of the facts which testify that the rays do not reach the causal agent. Experiences with sarcomata indicate that those whose cells approximate most closely the lymphoid tissue are most susceptible to the action of the rays. In man the rays seemed to exert a favorable action on the red cells and the hemoglobin, but no confirmatory findings of this have yet been obtained in animals.

99. Decapsulation of Kidney for Scarlatinal Anuria.—The patient was a boy of 6 with acute, threatening anuria for several days, but no signs of nephritis, on recovering from scarlet fever. The kidney was exposed under chloroform anesthesia and the capsule slit. The kidney was a dark brownish, bluish red in color, soft but not distended, and when the puncture needle was introduced for 1 cm. half a dozen times very little blood escaped. The wound was sutured over a gauze drain and the child rapidly recuperated and soon regained his usual health.

Zeitschrift f. klinische Medizin, Berlin.

Last indexed page 881.

101 (LVII, Nos. 3-4.) *Zur Diagnose der relativen Insuffizienz der Mitralis und Trikuspidalis und über den positiv zentrifugalen Venen-Puls bei Anämischen. W. von Leube (Würzburg).

102 **Experimentelle Untersuchungen über Glykolyse.** L. Rapoport.

103 *Klinische und exp. Beitrage zur Kenntnis der Krankheitsbildes der Polycythämie mit Milz-Tumor und Cyanose (polycythemia with enlarged spleen). P. Reckzeh.

104 *Hämatologische Untersuchungen über einige Fälle von Splenomegalia leucopenica. L. d'Amato (Naples).

105 *Ueber die Folgen subkutaner Kochsalzzufuhr nach Nephrektomie (consequences of saline infusion after nephrectomy). Brandenstein and Chajes.

106 **Behavior of Red and White Corpuscles in Infections and Intoxications and After Administration of Albuminoids and Curative Serums.—Experimentelle Untersuchungen zum Verhalten der Blutkörperchen, etc.; ein hematologisch untersuchter Fall von Katheter-Fieber beim Menschen.** J. Arneth.

107 *Klinische und path.-anatomische Beiträge zum Bronze-Diabetes. E. O. Hess and E. Zurhelle.

108 *Ueber die Dilatatio et Hypertrophia coli (Hirschsprung). A. Müllerger.

109 **Vergleich zwischen den organischen und anorganischen Fermenten (comparative study).** P. Bergell.

110 **Ueber Ausstossung röhrenförmiger Ausgüsse aus Oesophagus und Magen nach Veritzung (expulsion of cast of esophagus and stomach after destruction by caustic).** H. Grau.

101. Relative Valvular Defects in Anemia.—A positive centrifugal pulse is sometimes noted in the jugular vein in case of anemia, von Leube announces. It may be slight or pronounced, and is evidently the consequence of the functional muscular insufficiency of the tricuspid valve, the result of anemia. The origin is the same as for the relative mitral insufficiency in chlorosis. The symptoms in each case subside as the patients progress toward recovery. The relative tricuspid insufficiency in anemic individuals appears at the same time as the relative mitral insufficiency, in which it differs from the tardily appearing tricuspid insufficiency in the course of an endocarditic mitral defect. This early coincidence with mitral insufficiency and its persistence without severe disturbances in the circulation, are grounds for assuming the relative character of the mitral defect. A positive centrifugal venous pulse is also observed at times in anemic subjects without signs of tricuspid insufficiency. In some of these cases at least, this must be referred to a latent tricuspid insufficiency which may eventually become manifest.

103. Polycythemia and Enlarged Spleen.—Reckzeh states that reports of 29 cases of this affection have been published, and he adds to the list 5 personally observed. It seems to be an established fact that the symptom-complex of polycythemia with enlarged spleen and cyanosis can be observed in connection with primary tuberculosis of the spleen, but it is equally well established that the syndrome can occur without a tuberculous affection of the spleen. In one of Reckzeh's cases a young man presented a slowly growing malignant tumor of the thymus and lung which caused gradual compression of the superior vena cava. The result was cyanosis, polycythemia and enlargement of the spleen. Experiments on animals confirmed the lesson learned from this case, namely, that compression, causing stagnation of the blood, is alone sufficient to induce the development of the syndrome. Stagnation of the blood is probably, therefore, the cause of all the cases. This stagnation may be the result of diminished tonicity of the veins. The prognosis is generally bad, the cases progressing slowly to a fatal termination although showing marked and prolonged remission at times. Iodin, quinin and arsenic failed to produce any permanent benefit in his experience. Ehrlich recommends quinin and regulation of the diet to avoid iron. In one case Türk gave up to 30 drops of Fowler's solution daily for months and beheld the symptoms subside under this treatment. Symptomatic improvement has been obtained by withdrawal of blood, but it proved merely transient. Splenectomy has been proposed, especially for the cases with tuberculosis of the spleen. Reckzeh comments that it is impossible to diag-

nose positively a tuberculous affection of the spleen even with an exploratory incision. The hemorrhagic diathesis displayed by these patients should also suggest caution. In 3 cases on record splenectomy had an unfavorable effect, but, on the other hand, 8 cases are on record of isolated tuberculosis of the spleen in which a cure followed extirpation of the organ. Roentgen treatment has been tried and Vaquez and Laubry report improvement in the general condition in one case after three exposures with seven-day intervals; the composition of the blood remained uninfluenced.

104. Leucopenic Splenomegaly.—D'Amato concludes from his examination of 2 cases of Banti's disease, 2 of chronic malaria and one of syphilis affecting predominantly the liver and spleen, that the cause of splenomegalic leucopenia can not be sought in the distribution of the leucocytes in the different vascular regions, nor in any leucotoxic action on the part of the blood serum. He ascribes it to the condition of the blood producing organs, especially the bone marrow and spleen.

105. Consequences of Saline Infusion After Nephrectomy.—This article issues from Senator's clinic and is a contribution to the question as to the origin of hydrops renalis. Both kidneys were removed from rabbits and 1 per cent. salt solution or pure water was injected afterward. Among the various conclusions drawn from the results observed is that not all the molecules retained in case of insufficiency of the kidneys are of equal value in respect to the development of dropsy. When salt solution was injected whose percentage of salt was higher than that of the blood, the percentage of salt in the blood serum scarcely showed any rise, while the figures representing the osmotic pressure and the percentage of residual nitrogen showed a more or less marked rise. At the same time the refraction coefficient of the blood serum became reduced. It was evident that the main part of the retained salt was held in the juices and not in the parenchyma of the liver. Edema, hydrothorax and ascites were observed in nearly all the animals, more pronounced in the saline-injected animals than in those injected with water alone. It seems to have been established that certain organic substances contained in the residual nitrogen and the hydremic composition of the blood alter the walls of the vessels so that they become abnormally permeable for fluids. On account of these changes the masses of fluid which have gradually accumulated in the blood pass over into the tissues. An abnormal accumulation of fluid in the blood and lymph vessels first occurs in case of renal insufficiency when the salt accumulated in the vessels retains a corresponding amount of water. In advanced stages the insufficiency of the kidneys aids as a further factor in the accumulation of the water by direct disturbance also of the water-eliminating function of the kidneys.

107. Bronzed Diabetes.—Hess and Zurhelle conclude from their study of 2 cases that the cirrhosis of the liver and the hemochromatosis long precede the diabetes. They are independent of each other, but are probably all due to a single cause, some peculiar disturbance in the metabolism, possibly fostered by alcoholism. They accept Murri's theory that some permanent injury in the economy of the general metabolism leads to a general "dystrophy of the cells." This is manifested in the appearance of two abnormal properties, a capacity on the part of the tissues to take up the blood pigment (liberated by the enhanced destruction of the red corpuscles), and by a capacity for proliferation of the connective tissue, especially in the liver. The other abnormal property acquired is the reduction of the normal capacity for oxidizing carbohydrates (diabetes).

108. Dilatation of the Colon.—In pondering on the fatal termination in a case of dilated colon and sigmoid, Müllberger asks whether or not the patient, a boy of 13, might not have been saved by exclusion of the entire colon and an anastomosis between ileum and rectum. The disturbances are generally too slight to warrant such a serious operation, and when the syndrome becomes threatening it is usually too late for interference. The prospects for recovery would be much better if the diagnosis could be made in the early stages, when the dilatation is still within reasonable bounds. He remarks that there are about 80 cases of this disease on record. He recognizes two types, that with stiffening of the intestines, peristaltic unrest and excessive development of gas, and the form in which there is no peristalsis, the gas development does not surpass the normal range and the accumulation of fecal masses predominates in the syndrome.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

SCIENTIFIC MEMOIRS. Officers of the Medical and Sanitary Departments of the Government of India. Issued under the Authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla. Calcutta: Office of the Superintendent of Government Printing, India, 1902.

No. 1. Standardization of Calmette's Anti-Venomous Serum with Pure Cobra Venom: The Deterioration of this Serum Through Keeping in India. By G. Lamb, captain, I.M.S. and W. W. Hanna, Esq., M.B. Price, 2 annas (4d). From the Plague Research Laboratory, Bombay.)

No. 2. Malaria in India. By Captain S. P. James, M.B., I.M.S. (On Special Duty with the Royal Society's Commission on Malaria.) Price 1 real, 3 annas, or 3s. 2d.

No. 3. Some Observations on the Poison of Russell's Viper. (*Daboia russellii*). By G. Lamb, Captain, I.M.S., and W. Hanna, Esq., M.B. Price, 5 annas, or 6d.

No. 4. The Action of the Venome of the Cobra (*Naja tripudians*) and of the Daboia (*Daboia russellii*). On the Red Blood Corpuscles and on the Blood Plasma. By G. Lamb, Captain, I.M.S. Price, 3 annas, or 4d.

No. 5. Specificity of Antivenomous Sera. By G. Lamb, M.D. (Indian Medical Service). Price, 3 annas, or 4d.

No. 6. Final Report of the Anti-Malarial Operations at Mian Mir, 1901-1902. By Captain S. P. James, M.B., I.M.S. Price, 12 annas, or 1s. 2d.

No. 7. Some Observations on the Poison of the Banded Krait (*Bungarus fasciatus*). By Captain G. Lamb, M.D., I.M.S. Price, 6 annas, or 8d.

No. 8. Preliminary Report on a Parasite Found in Persons Suffering from Enlargement of the Spleen in India. Lieut. S. R. Christophers, M.B., I.M.S. Price, 1 rupee 3 annas.

No. 9. Second Report of the Anti-Malarial Operations at Mian Mir, 1901-1902. By Lieut. S. R. Christophers, M.B., I.M.S. Price, 10 annas, or 1s.

No. 10. Specificity of Antivenomous Sera. (Second Communication). By Captain G. Lamb, M.D. Price, 6 annas, or 8d.

No. 11. A Parasite Found in Persons Suffering from Enlargement of the Spleen in India, Second Report. By S. R. Christophers, M.B., I.M.S. Price, 2 rupees, or 3s.

No. 12. The Morphology, Teratology and Declinism of the Flowers of Cannabis. By Major D. Prain, M.B., I.M.S. Price, 14 annas, or 1s. 4d.

No. 17. Snake-Venoms in Relation to Hemolysis. By Capt. G. Lamb, M.D., I.M.S. Price, 6 annas, or 7d.

No. 18. Hemoglobin Cerebilli. By Lieut. S. R. Christophers, M.B., I.M.S. Price, 10 annas, or 1s.

No. 19. Kala Azar, Malaria and Malaria Cachexia. By Captain S. P. James, M.B., I.M.S. Price, 1 real 4 annas, or 1s. 11d.

POST-OPERATIVE TREATMENT. An Epitome of the General Management of Postoperative Care and Treatment of Surgical Cases as Practiced by Eminent American and European Surgeons. By N. C. Morse, A.B., M.D., 155 Illustrations and 5 Plates. Cloth. Pp. 468. Price, $4.00. Philadelphia: P. Blakiston's Son & Co., 1905.

TREATISE ON DISEASES OF THE SKIN. For the Use of Advanced Students and Practitioners. By H. W. Stelwagon, M.D., Ph.D. Fourth Edition. Thoroughly Revised. 286 Illustrations, and 32 full-page lithographic and half-tone plates. Cloth. Pp. 1136. Price, $6.00 net. Philadelphia: W. B. Saunders & Co., 1903.

CLINICAL AND PATHOLOGICAL PAPERS from the Lakeside Hospital, Cleveland. (Comprising 40 articles from workers in the different services of the hospital, which have appeared in various medical journals). Series II, paper. Published by the Hospital, 1905.

TEXT-BOOK OF MEDICAL AND PHARMACEUTICAL CHEMISTRY. By E. H. Bartley, B.S., M.D., Ph.G. Fifth Edition, thoroughly revised; 90 illustrations. Cloth. Pp. 734. Price, $3.00. Philadelphia: P. Blakiston's Son & Co., 1905.

NATIONAL ACADEMY OF SCIENCES. Vol. X. Third memoir. A Research on the Action of Alcohol on the Circulation. By H. C. Wood and D. M. Hoyt. Paper. Pp. 68. Washington: Government Printing Office, 1905.

REPORT OF THE SURGEON-GENERAL, U. S. NAVY, Chief of the Bureau of Medicine and Surgery, to the Secretary of the Navy. 1905. Paper. Pp. 203. Washington: Government Printing Office, 1905.

A TEXT-BOOK OF PHYSIOLOGY. For Medical Students and Physicians. By W. H. Howell, Ph.D., M.D., LL.D. Illustrated. Cloth. Pp. 905. Price, $4.00. Philadelphia: W. B. Saunders & Co., 1905.

MANUAL OF THE DISEASES OF INFANTS AND CHILDREN. By J. Ruhräh, M.D. Illustrated. Flexible Leather. Pp. 404. Price, $2.00 net. Philadelphia: W. B. Saunders & Co., 1905.

THE PHYSICIAN'S VISITING LIST FOR 1906. Fifty-fifth Year of its Publication. Leather Cover. Pocket. Price $1.00. Philadelphia: P. Blakiston's Son & Co., 1905.

ANATOMY AND PHYSIOLOGY FOR NURSES. By L. Lewis, M.D. Illustrated. Cloth. Pp. 317. Price, $1.75 net. Philadelphia: W. B. Saunders & Co., 1905.

BOARD OF HEALTH. Register of Physicians of State of West Virginia, to Dec. 31, 1904. Paper. Pp. 143. Press of the Herald, Huntington, 1905.